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Supplementary Contamination Assessment

Portion of Lot 6 in DP564939

Norman Griffiths Sportsground, Lofberg Road, West Pymble, NSW

Report Number 610.17191-R02

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Ku-ring-gai Council

818 Pacific Highway

Gordon NSW 2073

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Norman Griffiths Sportsground, Lofberg Road, West Pymble, NSW

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Executive Summary

SLR Consulting Pty Ltd (SLR) was engaged by Ku-ring-gai Council to undertake a supplementary contamination assessment for Norman Griffiths Sportsground, Lofberg Road, West Pymble, NSW (the site).

The assessment was undertaken in accordance with SLR's offer of services dated 11 April 2017 (ref: 610.17191-P02-v1.0 20170411).

SLR understands the following:

- The site is comprised of a portion of Lot 6 in DP564939, specifically the turfed playing field portion (excluding the adjacent amenities building), and covers an area of approximately 9,500m^2;
- Council is considering changing the playing field surface from the existing natural turf, to a synthetic grass; and
- A stage 1 preliminary site investigation undertaken by SLR, identified two areas of environmental concern (AEC) on the site, resulting from potential uncontrolled filling.
- Council has requested a supplementary assessment of these AEC, to inform feasibility of changes to the playing field surface.

The objectives of this project were to:

- Assess the potential for contamination to be present on the site in the identified AEC, which may present an unacceptable human health exposure risk, in the context of the resurfacing works, and an open space/recreational land use scenario; and
- Provide recommendations for additional investigation, management or remediation of the site (if warranted).

SLR undertook the following scope of work to address the project objectives:

- a desktop review;
- fieldwork and sampling;
- laboratory analysis; and
- data assessment and reporting.

Based on a review of the available desktop search data, observations made during fieldwork, and the results of sample laboratory analysis (in the context of the open space land use (sporting field) scenario for the site), SLR makes the following conclusions:

- The detected concentrations of the identified contaminants of potential concern in soils on the site are considered:
    - unlikely to present an unacceptable direct contact, soil vapour or vapour intrusion human health exposure risk;
    - unlikely to present an unacceptable risk of forming observable light non-aqueous phase liquid (LNAPL), fire / explosive hazards, or to buried infrastructure e.g. penetration of, or damage to, in-ground services by hydrocarbons; and
    - unlikely to present an unacceptable aesthetics risk.

Based on the available data and conclusions made, SLR makes the following recommendations:

Executive Summary

- Should material need to be imported to the site, an appropriate management plan should be prepared and implemented, to control the type/s of fill being imported, and to mitigate land contamination risks associated with uncontrolled imported fill; and
- Should material on the site need to be excavated and disposed of, a waste classification for that material should be prepared beforehand in accordance with NSW EPA (2014), 'Waste Classification Guidelines, Part 1: Classifying Waste'.

This report must be read in conjunction with the limitations set out in Section 13 of this report.

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1 INTRODUCTION

1.1 Background

SLR Consulting Pty Ltd (SLR) was engaged by Ku-ring-gai Council to undertake a supplementary contamination assessment for Norman Griffiths Sportsground, Lofberg Road, West Pymble, NSW (the site).

The assessment was undertaken in accordance with SLR's offer of services dated 11 April 2017 (ref: 610.17191-P02-v1.0 20170411).

SLR understands the following:

- The site is comprised of a portion of Lot 6 in DP564939, specifically the turfed playing field portion (excluding the adjacent amenities building), and covers an area of approximately 9,500m^2;
- Council is considering changing the playing field surface from the existing natural turf, to a synthetic grass; and
- A stage 1 preliminary site investigation undertaken by SLR, identified two areas of environmental concern (AEC) on the site, resulting from potential uncontrolled filling.
- Council has requested a supplementary assessment of these AEC, to inform feasibility of changes to the playing field surface.

1.2 Objectives

The objectives of this project were to:

- Assess the potential for contamination to be present on the site in the identified AEC, which may present an unacceptable human health exposure risk, in the context of the resurfacing works, and an open space/recreational land use scenario; and
- Provide recommendations for additional investigation, management or remediation of the site (if warranted).

1.3 Scope of Work

SLR undertook the following scope of work to address the project objectives:

- a desktop review;
- fieldwork and sampling;
- laboratory analysis; and
- data assessment and reporting.

2 SITE IDENTIFICATION

The locality of the site is presented in Figure 1.

The site is identified as a portion of Lot 6 in DP564939.

The site is irregular in shape and occupies an area of approximately 9,500m^2.

The layout of the site is presented in Figure 2.

A detail and level survey of the site is presented in Appendix A.

3 SITE SETTING

3.1 Geology

The Geological Survey of NSW Sydney 1:100,000 Geological Series Sheet 9130 Edition 1 (1983) indicates that site is likely to be underlain by Middle Triassic Ashfield Shale, comprising black to dark grey shale and laminate. It is noted parts of the site may cross over into areas underlain by Middle Triassic Hawkesbury Sandstone, comprising medium to coarse grained quartz sandstone, very minor shale and laminate lenses.

3.2 Topography

The topography of the site is generally flat, with minor south west facing slopes. The site sits at an approximate elevation of 70-72m Australian height datum (AHD).

3.3 Hydrogeology

The nearest surface water courses to the site appears to be:

- Quarry Creek located approximately 300m to the south west of the site; and
- Blackbutt Creek located approximately 500m to the east of the site.

Based on site topography and the distance to the nearest identified surface water courses, it is considered that groundwater flow in the immediate vicinity of the site may be towards the south west.

A search of the NSW Natural Resources Atlas (NSW-NRS, www.nratlas.nsw.gov.au) conducted on 9 March 2017 identified one registered groundwater works features within the search area (500m radius of the site). The feature was a bore authorised for recreation (groundwater) and intended for irrigation. The status of the licence for the feature was “cancelled”. Based on the inferred location of the feature, SLR considers it likely that the bore was used for groundwater extraction to facilitate irrigation of playing fields in the Ku-ring-gai Bicentennial Park precinct (where the site is located).

3.4 Acid Sulfate Soils

The Department of Land and Water Conservation Prospect / Parramatta Acid Sulfate Soil Edition Two map indicates that site is located in an area of no known occurrence of acid sulfate soil materials.

It is noted that acid sulfate soils typically occur at elevations <10m Australian Height Datum (AHD). The site is located at an elevation of approximately 70-72m AHD.

4 PREVIOUS CONTAMINATION ASSESSMENTS

The following contamination assessment related report was available for review as part of this investigation:

- SLR 2017, 'Stage 1 Preliminary Site Investigation, Norman Griffiths Sportsground, Portion of Lot 6 in DP564939, Lofberg Road, West Pymble, NSW' dated 3 May 2017, ref: 610.17191-R01-v1.0.

A summary of this report is presented in Section 4.1.

4.1 SLR (2016)

The objectives of this project were to:

- Assess the potential for contamination to be present on the site, as a result of past and present land use activities;
- Provide advice on the suitability of the site (in the context of land contamination), for the proposed re-surfacing;
- Provide recommendations for additional investigation, management or remediation of the site (if warranted).

SLR undertook the following scope of work to address the project objectives:

- a desktop review;
- a site walkover; and
- data assessment and reporting.

A review of available site history data and observations made during site walkover indicated a number of areas of environmental concern (AEC) and contaminants of potential concern (COPC) that are considered as requiring further assessment. These AEC and COPC are presented in the table below and Figure 3.

ID	AEC	Activity of Concern	Contaminants of Potential Concern
AEC01	Site footprint	Potential uncontrolled filling	Hydrocarbons, PCB, pesticides, metals, asbestos
AEC02	Mound	Potential uncontrolled filling	Hydrocarbons, PCB, pesticides, metals, asbestos

Based on a review of the available desktop search data and observations made during the site walkover, SLR made the following conclusions:

- Areas of environmental concern (AEC) and contaminants of potential concern (in the context of land contamination), have been identified for the site;
- The potential for contamination to be present on the site as a result of past and present land use activities is considered to be low to moderate;
- The potential for contamination being present in the identified AEC, at concentrations that may present an unacceptable human health exposure risk, is considered to be low to moderate. However, that potential could change in the event that fill soils become exposed;
- Further assessment would be required, in the context of detailed design plans for the proposed resurfacing, to provide advice on potential risks associated with the new site form and layout; and

- Consideration should be given to managing the importation of fill, to mitigate risks associated with potential contamination in that fill and unlawful application of waste to land.

Based on these conclusions, SLR made the following recommendations:

- A supplementary contamination investigation be undertaken, to make further assessment of the nature and extent of potential filling material on the site, in the context of detailed design and surface finishes. SLR considers this investigation to be a proactive approach to addressing contamination related uncertainties, with the findings used to inform and/or amend detailed design. Awareness of identified contamination on site could also assist in mitigating delays associated with unexpected finds encountered during resurfacing associated construction;
- As an alternative to the supplementary contamination investigation, an unexpected finds management plan be prepared, for implementation during the resurfacing construction phase. The management plan would include information on the likely types of unexpected finds that may be encountered during construction (based on available site history), and protocols on how to manage those finds as part of the construction activity. Those protocols may include a need to amend the design during construction, to accommodate unexpected finds; and
- An imported fill management plan be prepared, nominating protocols for the importation of fill material, including tracking, inspection, testing and validation criteria.

5 CONCEPTUAL SITE MODEL

5.1 Areas of Environmental Concern and Contaminants of Potential Concern

A review of available site history data and observations made during the site walkover indicated an area of environmental concern (AEC) and contaminants of potential concern (COPC) may be present on the site.

The AEC and COPC remaining for the site are presented in Table 1 and Figure 3.

Table 1 Areas of Environmental Concern and Contaminants of Potential Concern

ID	AEC	Activity of Concern	Contaminants of Potential Concern
AEC01	Site footprint	Potential uncontrolled filling	Hydrocarbons, PCB, pesticides, metals, asbestos
AEC02	Mound	Potential uncontrolled filling	Hydrocarbons, PCB, pesticides, metals, asbestos

5.2 Receptors and Pathways

5.2.1 Proposed Land Use Scenario

The site is proposed for resurfacing of the playing field with a synthetic grass.

Based on this redevelopment concept, it is considered reasonable to adopt a 'public open space such as parks, playgrounds playing fields (e.g. ovals)' land use scenario, for a contamination exposure assessment. It is noted that the human health screening levels associated with this land use scenario are more conservative compared to those typically applicable to an in intrusive maintenance worker land use scenario.

5.2.2 Human Health – Direct Contact

It is considered appropriate to assess whether a direct contact exposure risk for may be present on the site.

5.2.3 Human Health – Inhalation / Vapour Intrusion

It is considered appropriate to assess whether an inhalation (vapour intrusion) exposure risk for occupants may be present on the site.

5.2.4 Aesthetics

No visual evidence of widespread or significant staining was observed on the hardstand surface of the site. While it is considered that placement of synthetic grass would prevent receptor visual exposure to potential sub surface visual aesthetic impacts, an assessment for the presence of malodorous sub surface soils on the site should be made.

5.2.5 Ecological – Terrestrial Ecosystems

NEPC (1999) requires a pragmatic risk-based approach should be taken in applying ecological investigation and screening levels in residential and commercial / industrial land use settings. SLR notes that thus project is also limited to an assessment of human health risks in the context of land contamination.

It is noted that the redevelopment concept will include resurfacing of the site with synthetic grass (and associated subgrade). This limits the environmental values that require consideration (i.e. support of plant growth). SLR (2017) reported that vegetation on the site did not display evidence of significant or widespread phytotoxic impact (i.e. plant stress or dieback).

Further assessment of unacceptable risk to terrestrial ecosystems is considered not warranted.

6 DATA QUALITY OBJECTIVES

Data quality objectives (DQO) have been developed using the seven step processes described in

- NSW DEC 2006, Contaminated Sites: Guidelines for the NSW Site Auditor Scheme (2nd edition).

The DQO were presented in SLR (2015), with the first three DQO replicated in Sections 6.1 to 6.8 below.

6.1 Step 1 – State the Problem

The objectives are to:

- Assess the potential for contamination to be present on the site in the identified AEC, which may present an unacceptable human health exposure risk, in the context of the resurfacing works, and an open space/recreational land use scenario; and
- Provide recommendations for additional investigation, management or remediation of the site (if warranted).

The main problems are:

- How should relevant site media be assessed;
- What sampling layout should be used; and
- What contaminants should be analysed for and by what method to be useful for assessment.

6.2 Step 2 – Identify the Decision

The decisions that need to be made during this project include:

- Is the field and laboratory analytical data suitable for assessing the quality of the media being assessed;
- Does contamination in soils on the site present an unacceptable exposure risk for the adopted land use scenario; and
- Is the site suitable (in the context of land contamination) for the proposed redevelopment concept.

6.3 Step 3 – Identify Inputs to the Decision

The primary inputs to assessing the above include:

- the site history made available;
- location, distribution and intervals of sampling at the site;
- data collected during the assessment, including field measurements, field observations and laboratory analysis results;
- outcomes of the assessment of the quality of collected data;
- adopted exposure risk assessment criteria.

Exposure risk assessment criteria will be adopted from:

- National Environment Protection Council (NEPC) 1999, 'Schedule B(1) Guideline on Investigation Levels for Soil and Groundwater, National Environment Protection (Assessment of Site Contamination) Measure (NEPM), as amended in 2013'.
- Friebel, E & Nadebaum, P 2011, 'Health screening levels for petroleum hydrocarbons in soil and groundwater, Part 2: Application document, CRC CARE Technical Report No. 10'

6.3.1 Human Health - Direct Contact

The relevant direct contact:

- Health-Based Investigation Levels (HILs) for public open space in Table 1A (1) in NEPC (1999); and
- Health Screening Levels (HSL) for residential and intrusive maintenance workers listed in Table B4 of Friebel, E & Nadebaum, P (2011);

are adopted for this assessment.

6.3.2 Human Health – Inhalation / Vapour Intrusion

For the proposed land use exposure scenario, the relevant soil HSL for vapour intrusion listed in Table 1A (3) in NEPC (1999), are adopted for this assessment.

If required, relevant soil analytical data will be assessed against those HSLs relevant to the soil type encountered during intrusive works on the site.

Should evidence of petroleum hydrocarbon contamination be identified in site soils (e.g. significant odours, elevated PID readings), then assessment of soil vapour intrusion risk should be considered (against soil vapour HSLs for vapour intrusion in Table 1A(5) in NEPC (1999)).

6.3.3 Human Health – Asbestos

NEPC (1999) provides health screening levels for asbestos contamination in soil, which are based on specific land use exposure scenarios, for three forms of asbestos: bonded asbestos containing material (ACM), friable asbestos (FA) and asbestos fines (AF). These health screening levels are provided in Table 2.

Table 2 Health Screening Levels for asbestos contamination in soil

Form of asbestos	Health Screening Level (W/W)			
	Residential A	**Residential B**	**Recreational C**	**Commercial/Industrial**
ACM	0.01%	0.04%	0.02%	0.05%
FA and AF	0.001%			
All forms of asbestos	No visible asbestos in surface soil			

The laboratory method for analysis of asbestos in bulk materials is based on AS 4964-2004. Consequently, a practical quantification limit equal to or less than 0.001% by weight is not adopted and the limit is 0.1g/kg (equivalent to 0.01% w/w). For the purposes of this project, criteria of “no visible asbestos containing materials in surface soils (top 10cm)” and “no asbestos fibres detected in samples using trace analysis techniques” has been adopted as initial screening criteria.

6.3.4 Petroleum Hydrocarbon Compounds – Management Limits

NEPC (1999) advises that management limits for petroleum hydrocarbon compounds need to be considered to minimise the potential effects of:

- Formation of observable light non-aqueous phase liquids (LNAPL);
- Fire and explosive hazards; and
- Effects on buried infrastructure e.g. penetration of, or damage to, in ground services by hydrocarbons.

For the proposed land use exposure scenario, the management limits for commercial / industrial in Table 1 B(7) of NEPC (1999), are adopted for this project. Specific management limits (relevant to soil texture) will be adopted based on field assessment of predominant soil types encountered during intrusive investigations i.e. coarse grain (sands) versus fine grain (silts and clays).

6.3.5 Aesthetics

NEPC (1999) requires that aesthetic quality of accessible soils be considered even if testing suggests that the concentrations of contaminants of concern are within acceptable limits.

No specific numerical guidelines have been assigned for aesthetics. However the NEPM 2013 indicates that professional judgement with regard to quantity, type and distribution of foreign material and/or odours in relation to the specific land use and its sensitivity should be employed.

The following circumstances are considered likely to trigger further aesthetic assessment:

- highly malodorous soils or extracted groundwater (e.g. strong residual petroleum hydrocarbon odours, hydrogen sulphide in soil or extracted groundwater, organo-sulfur compounds);
- hydrocarbon sheen on surface water;
- discoloured chemical deposits or soil staining with chemical waste other than of a very minor nature;
- large monolithic deposits of otherwise low risk material, e.g. gypsum as powder or plasterboard, cement kiln dust;
- presence of putrescible refuse including material that may generate hazardous levels of methane; and
- soils containing residue from animal burial.

There are no specific numeric aesthetic guidelines, however site assessment requires balanced

- consideration of the quantity, type and distribution of foreign material or odours in relation to the
- specific land use and its sensitivity. For example, higher expectations for soil quality would apply to
- residential properties with gardens compared with industrial settings.

General assessment considerations will include:

- that chemically discoloured soils or large quantities of various types of inert refuse particularly if unsightly, may cause ongoing concern to site users;
- the depth of the materials, including chemical residues, in relation to the final surface of the site; and
- the need for, and practicality of, any long-term management of foreign material.

In some cases, documentation of the nature and distribution of the foreign material may be sufficient to address concerns relating to potential land use restrictions.

In arriving at a balanced assessment, the presence of small quantities of non-hazardous inert material and low odour residue (for example, weak petroleum hydrocarbon odours) that will decrease over time will not be a cause of concern or limit the use of a site in most circumstances. Similarly, sites with large quantities of well-covered known inert materials that present no health hazard such as brick fragments and cement wastes (for example, broken cement blocks) will be of low concern for the proposed land use scenario.

However, caution will be applied when assessing large quantities of various fill types and demolition rubble are present.

6.4 Step 4 – Define the Study Boundaries

6.4.1 Spatial Boundaries

The horizontal boundary of the project is defined by the boundary of the site.

The vertical boundary of the project for soils is defined by the depth of potentially impacted material.

6.4.2 Temporal Boundaries

The temporal boundaries of investigation works will be limited by:

- natural daylight working hours; and
- levels of precipitation which, in the opinion of the environmental consultant, prevents adequate visual observations to be made.

6.5 Step 5 – Develop a Decision Rule

The decision rules for the project will be as follows:

- If the results of the laboratory analytical data and field data quality assessment are acceptable (i.e. comply with the procedures, requirements and limits set out in Section 6.7, then the data will be considered suitable for the purposes of the project. Data will be assessed for completeness, comparability, representativeness, precision and accuracy.
- If the results of the laboratory analytical data are within the adopted assessment criteria and fieldwork observations are acceptable, then the level of contamination in the media assessed will be considered an acceptable exposure risk.

Specifically, a series of if/then statements specific to each area requiring assessment, is presented in Table 3.

Table 3 Decision Rule If/Then Statements

ID	Decision Rule If/Then Statements
AEC01	If analytical results and field observations are less than adopted assessment criteria, then contamination related exposure risks are considered acceptable.
AEC02	If analytical results and field observations are less than adopted assessment criteria, then contamination related exposure risks are considered acceptable.

If the results of laboratory analytical data exceed the adopted assessment criteria or the fieldwork observations are unacceptable, then the level of contamination in the media assessed may require further assessment, management or remediation.

6.6 Step 6 – Specify Acceptable Limits on Decision Errors

There are two types of error:

- deciding that contamination on the site is an acceptable risk for the proposed land use when it is not; and
- deciding that contamination on the site is not an acceptable risk for the proposed land use when it is.

The assessment will aim to conclude with 95% confidence that media in the identified areas of environmental concern do not present an unacceptable risk. Consequently, the 95% upper confidence limit (UCL) statistic will be used to assess the mean concentrations of chemicals of potential concern in soil (where appropriate).

Confidence in the reliability of assessment methods (e.g. field observations, laboratory analysis and data review) will be based on appropriate levels of qualification and/or experience in the personnel undertaking the relevant task.

The data quality indicators set out in Table 4 will be used to assess data for completeness, comparability, representativeness, precision and accuracy.

Table 4 Data Quality Indicators

Completeness	
Field Considerations	*Laboratory Considerations*
All critical locations sampled All samples collected (from grid and at depth) SOPs appropriate and complied with Experienced sampler Documentation correct	All critical samples analysed in accordance with the data quality objectives All analytes analysed in accordance with the data quality objectives Appropriate methods and LORs Sample documentation complete Sample holding times complied with
Comparability	
Field Considerations	*Laboratory Considerations*
Same SOPs used on each occasion Experienced sampler Climatic conditions (temperature, rainfall, wind) Same types of samples collected (filtered, size fractions)	Sample analytical methods used (including clean-up) Sample LORs (justify/quantify if different) Same laboratories (justify/quantify if different) Same units (justify/quantify if different)
Representativeness	
Field Considerations	*Laboratory Considerations*
Appropriate media sampled in accordance with the data quality objectives All media identified in data quality objectives sampled	All samples analysed in accordance with the data quality objectives
Precision	
Field Considerations	*Laboratory Considerations*
SOPs appropriate and complied with	Analysis of: • laboratory and inter-laboratory duplicates • field duplicates • laboratory-prepared volatile trip spikes

Accuracy (bias)	
Field Considerations	*Laboratory Considerations*
SOPs appropriate and complied with	Analysis of: • field blanks • rinsate blanks • reagent blanks • method blanks • matrix spikes • matrix spike duplicates • surrogate spikes • reference materials • laboratory control samples • laboratory-prepared spikes

6.7 Step 7 – Optimise the Design for Obtaining Data

6.7.1 Sampling Frequency and Locations

The site covers an area of approximately 9,500m^2. NSW EPA 1995, 'Contaminated Sites: Sampling Design Guidelines' recommends a minimum of twenty systematic sampling points to characterise a site of this size. SLR notes that the minimum sampling points set out in Table A in NSW EPA (1995)[1] is an approach for site characterisation based on detecting hot spots of certain diameters, using a systematic (i.e. grid based), sampling pattern, where the investigator has little knowledge about probable locations of contamination.

Section 3.1 of NSW EPA (1995) states that:

- A judgemental sampling pattern can be used where there is enough information on the probable locations of contamination

Section 6.2 of NEPC (1999b) provides guidance on undertaking judgemental sampling, sample random sampling and systematic / grid sampling. It is noted that NEPC (1999b) states that:

- judgemental sampling is based on knowledge of the site and professional judgement; and
- sampling is localised to known or potentially contaminated areas identified from knowledge of the site either from the site history or an earlier phase of site investigation; and
- judgemental sampling is commonly used to investigate sub surface contamination issues in site assessment.

Given the understanding of site history, it is considered appropriate to apply a judgemental and targeted based sampling pattern to address relevant areas of environmental concern.

[1] NSW EPA 1995, Contaminated Sites: Sampling Design Guidelines', dated September 1995, ref: EPA 95/59.

Specifically, it is considered appropriate and adequate to characterise potential site contamination with a total of 16 intrusive soil sampling points.

6.7.2 Sampling Methodology

6.7.2.1 Test Pits

Test pits will be excavated on site in accordance with the methodology presented in Table 5. Target depths are based on a number of factors including:

- Contaminant laydown mechanisms;
- Contaminant types; and
- Likely depth of contamination.

Table 5 Proposed Investigation Method Summary

Sampling Point ID	Sampling Method	Target Depth
TP01 – TP16	Track mounted hydraulic excavator	Up to 1.0m below ground surface, 0.3m into natural material or practical refusal, whichever occurs first
TP13 – TP16	Track mounted hydraulic excavator	Inferred base of mound, 0.3m into natural material or practical refusal, whichever occurs first

6.7.2.2 Soil Sampling

Soil samples will be collected from each sampling point at the surface and then at regular depths thereafter, or where there is evidence of contamination or a change in soil lithology. Materials encountered during sampling will be logged in general accordance with the Unified Soil Classification System (UCS).

6.7.3 Soil Headspace Screening

Soil samples will be screened in the field for ionisable volatile organic compounds (VOC) using a calibrated photo-ionisation detector (PID). Screening results will be recorded on the relevant log.

6.7.4 Photographic Records

Photographs of fieldwork and other features of interest relevant to the project will be taken.

6.7.5 Location Records

The location of each sampling point will be recorded by hand on a site plan.

6.7.6 Sample Identification, Storage and Transport Procedures

Samples will be identified using unique sampling point identifiers and sample depth intervals (e.g. TP01/0.0-0.2).

Samples will be placed in laboratory prepared containers and zip lock bags, as appropriate. The sample containers will then be placed directly into an insulated chest containing ice, for transportation to the NATA accredited analytical laboratory with the chain of custody (COC) form recording the following information:

- project job number;
- date of sampling;

- sample identifier;
- sample matrix and container type;
- preservation methods used;
- analysis requirements for each sample;
- turnaround times required for analysis; and
- names and signatures of sender and receiving laboratory.

A copy of the chain of custody will be kept in the job file. Samples will be transported to the laboratory with sufficient time to perform analysis within the applicable holding period.

The proposed sample storage and transport requirements for the likely contaminants of potential concern are presented in Table 6.

Table 6 Sample Storage and Transport Requirements

Analyte	Soil Sample Container Type	Groundwater Sample Container Type	Storage and Transport
TRH C6-C10	1 x 250mL glass	2 x glass vials	Ice and insulated container
TRH >C10-C40	1 x 250mL glass	Nil	Ice and insulated container
BTEX	1 x 250mL glass	2 x glass vials	Ice and insulated container
VOC	1 x 250mL glass	2 x glass vials	Ice and insulated container
PAH	1 x 250mL glass	Nil	Ice and insulated container
Phenol	1 x 250mL glass	1 x amber glass bottle	Ice and insulated container
PCB	1 x 250mL glass	Nil	Ice and insulated container
OCP	1 x 250mL glass	Nil	Ice and insulated container
Metals	1 x 250mL glass	1 x plastic bottle	Ice and insulated container
Asbestos	1 x 50-100g zip lock bag	Nil	Nil

6.7.7 Laboratory Analysis

Selected samples will be scheduled for analysis, based on identified contaminants of potential concern for the AEC that the sampling point is located in, field observations and headspace screening results, up to the quantities presented in Table 7.

Table 7 Laboratory Analytical Quantities

Sampling Point ID	TRH/BTEX	PAH	OCP / PCB	Metals	Asbestos
TP01 - TP12	6	12	4	12	12
TP13 – TP16	2	4	2	4	4

In the event that field screening of soil samples identifies a potential for contamination to be present beyond that which can be assessed with the analytical quantities nominated in Table 7, analysis of additional soil samples (or additional analytes) will be considered.

6.7.8 Fieldwork Quality Assurance / Quality Control

6.7.8.1 Decontamination Procedures

Non-disposable sampling equipment will be decontaminated before and between sampling events to reduce the potential for cross contamination to occur between samples. Decontamination will include the following procedure:

- washing non-disposable sampling equipment in a solution of phosphate free detergent (e.g. Decon 90) and potable water; and
- rinsing with distilled water.

6.7.8.2 Intra-laboratory Duplicates

Intra-laboratory field duplicates will be collected on an average frequency of one sample per twenty samples collected (5%), with a minimum of one per batch (excluding samples collected for asbestos analysis). The analytical results of the two spilt samples will be compared to assess the precision of the sampling protocol, and provide an indication of variability in the sample source. The relative percentage difference (RPD) acceptance limits will be:

- No limit analytical results <10 times LOR
- 50% analytical results 10-20 times LOR
- 30% analytical results >20 times LOR

The RPD exceedances (if any) will be assessed to determine whether the project DQO's can still be addressed. If not, then further sampling and/or analysis may be required.

6.7.8.3 Inter-Laboratory Duplicates

Inter-laboratory field duplicates will be collected on an average frequency of one sample per twenty samples collected (5%) with a minimum of one per batch (excluding samples collected for asbestos analysis). The analytical results of the two spilt samples will be compared to assess the precision of the sampling protocol, and provide an indication of variability in the sample source. The relative percentage difference (RPD) acceptance limits will be:

- No limit analytical results <10 times LOR
- 50% analytical results 10-20 times LOR
- 30% analytical results >20 times LOR

The environmental consultant will assess RPD exceedances (if any) and whether the project DQO's can still be addressed. If not, then further sampling and/or analysis may be required.

6.7.8.4 Rinsate Samples

A rinsate sample will be collected and analysed for each day of field work carried out, where non-disposable sampling equipment has been used. The rinsate sample will be analysed for generally the same contaminants of potential concern that the samples are being analysed for (excluding asbestos).

The acceptance limit shall be the detected concentrations of the contaminants of concern analysed for in the sample, are less than the applicable LOR. The environmental consultant will assess the significance of the acceptance limit exceedance and whether the project DQO's can still be addressed. If not, then further sampling and/or analysis may be required.

6.7.8.5 Trip Blanks

Trip blanks will be used and analysed for a batch of samples provided to the laboratory, where the contaminants being analysed for, are volatile in nature (e.g. BTEX or TPH C_6-C_{10}). The trip blank will be analysed for BTEX.

The acceptance limit shall be the detected concentrations of BTEX in the trip blank, are less than the applicable LOR. The environmental consultant will assess the significance of acceptance limit exceedances and whether the project DQO's can still be addressed. If not, then further sampling and/or analysis may be required.

6.7.8.6 Trip Spikes

Trip spikes will be used and analysed for a batch of samples provided to the laboratory, where the contaminants being analysed for, are volatile in nature (e.g. BTEX or TPH C_6-C_{10}). The trip spike will be analysed for BTEX.

The acceptance limit shall be the BTEX recoveries in the trip spike are between 60% and 140%. The environmental consultant will assess the significance of acceptance limit exceedances and whether the project DQO's can still be addressed. If not, then further sampling and/or analysis may be required.

6.7.9 Laboratory Quality Assurance / Quality Control

6.7.9.1 Laboratory Selection

The primary and secondary laboratories used for this project will be NATA-accredited for the analyses being undertaken.

6.7.9.2 Laboratory Data Quality Indicators

The laboratory data quality will be assessed by checking the following:

- laboratory methods used are NATA accredited;
- laboratory limits of reporting are less than adopted assessment criteria;
- samples are extracted and analysed within holding times; and
- results of method blanks, surrogate, lab control sample, spike recoveries relative percentage differences (RPDs) between primary and duplicate laboratory samples.

Data Quality Indicators (DQI) that will be adopted for quality control samples are presented in Table 8.

Table 8 Laboratory Data Quality Indicators

Type of Quality Control Sample	Control Limit	
Method Blank	Analytical result < LOR	
Surrogate % Recovery	50% - %150%	
Labe Control Sample % Recovery	70% - 130%	
Spike % Recovery	70% - 130% for inorganics 60% - 140% for organics	
RPD	No limit 50% 30%	Analytical results <10 times LOR Analytical results 10-20 times LOR Analytical results >20 times LOR

Should the results of a laboratory quality control sample exceed the relevant adopted control limit, the laboratory will be requested assess the significance of the exceedance on the quality of the laboratory analytical data for the relevant batch. The environmental consultant will assess the significance of the control limit exceedance and whether the project DQO's can still be addressed. If not, then further sampling and/or analysis may be required.

6.7.9.3 Laboratory Limits of Reporting, Analytical Methods and Holding Times

Laboratory limits of reporting, analytical methods and holding times are presented in Table 9.

Table 9 Limits of Reporting, Methods and Holding Times

Analyte	Limit of Reporting (mg/kg)	Limit of Reporting (µg/L)	Method	Holding Time
BTEX and TRH C6-C10	0.2-0.5	1.0-2.0 and 50	USEPA 5030, 8260B and 8020	14 days
TRH >C10-C40	20-100	50-500	USEPA 8015B & C	14 days
PAH	0.1-0.2	-	USEPA 8270	14 days
VOC	0.1-0.5mg/kg	0.5-10	USEPA8260	14 days
OCP	0.2	-	USEPA 8081	14 days
PCB	0.2	-	USEPA 8270	14 days
Phenol	0.1	0.01	APHA 4500 P	14 days
Metals	1	0.1-5	USEPA 200	6 months
Asbestos	Presence / Absence	-	AS4964:2004	No limit

6.8 Reporting

A stage 2 detailed site investigation report will be prepared in accordance with the relevant sections of NSW OEH 2011, 'Contaminated Sites: Guidelines for Consultants Reporting on Contaminated Sites', and will include the following:

- Executive summary;
- Scope of work;
- Site identification;
- Site history summary;
- Site condition and surrounding environment summary;
- Information on geology and hydrogeology;
- Field and laboratory analytical data;
- Field and laboratory data QA/QC assessment;
- Site characterisation; and
- Conclusions and recommendations.

7 FIELDWORK

7.1 Underground Services

An online dial before you dig search was submitted on 1 June 2017 and the plans received were reviewed.

An underground service survey of proposed drilling locations was undertaken on 6 June 2017, by Geotrace, under the supervision of SLR Consulting.

7.2 Soil Sampling

Soil sampling was undertaken on 6 June 2017. A total of sixteen soil sampling points were set out for the site (TP01 to TP16).

Soil test pits were excavated by Ken Coles Excavations using a hydraulic excavator.

Soil samples were collected from hand auger cuttings at the surface and at regular intervals thereafter, or where there was visual or olfactory evidence of contamination observed.

Collected samples were placed into laboratory prepared jars (with Teflon lined lids) and zip lock bags. Jars and bags were labelled with a project number, sampling point and depth interval, and the date. Samples were placed in insulated containers with ice during storage on site and transport to the laboratory.

The location of each sampling point was recorded on a site plan and these locations are presented in Figure 4.

7.3 Site Specific Geology

Observations of soils encountered at each borehole location were recorded and are presented in logs in Appendix B.

7.3.1 Fill Material

Fill material was encountered in the test pits to depths ranging from 0.2m below ground level to 2.2m below ground level.

Details of fill soils encountered are included in the test pit logs presented in Appendix B.

Anthropogenic materials encountered in the fill material generally included asphalt, concrete, brick, wood, metal and plastic. Two large tree logs were also encountered buried in fill at depths of 1.0 and 1.3m below ground level, at sampling point TP05.

7.3.2 Natural Material

Natural material was encountered in nine of sixteen test pits, while natural material was suspected to have been encountered in a further three of the sixteen test pits.

Natural material was not encountered at sampling point TP05 (refusal conditions due to presence of buried logs).

Natural material was not encountered at sampling point TP15 and sampling point 16. However the target depth of sampling (inferred base of mound) was reached.

7.4 Odours

Olfactory evidence of odours in soil during the sampling works, were not encountered.

7.5 Staining

Visual evidence of staining in the soil samples collected was not observed.

7.6 Potential Asbestos Containing Materials

Visual evidence of potential asbestos containing materials (ACM) in the soil samples collected was not encountered.

7.7 Headspace Screening

Headspace screening was undertaken on the samples collected and the results are presented in the logs in Appendix B. Headspace screening was undertaken by placing a sub sample of soil from each relevant sampling point/depth into a zip lock bag, sealing the bag and shaking the bag gently. Each bag was then pierced using the tip of the PID probe and the PID screening result recorded.

The results of the headspace screening indicated a low to negligible potential for ionisable volatile organic compounds to be present in the soils encountered.

8 LABORATORY ANALYSIS

A selection of soil samples and groundwater samples were scheduled for laboratory analysis, based on field observations and the contaminants of potential concern identified for the relevant areas of environmental concern (refer to Section 5.1).

Copies of the laboratory certificates of analysis are presented in Appendix C.

Tabulated laboratory analytical results are presented in Table LR1.

9 QUALITY ASSURANCE / QUALITY CONTROL

9.1 Fieldwork

9.1.1 Sampling

The sampling was undertaken

- in accordance with SLR's standard operating procedures (SOP). These procedures are based on accepted industry practice for projects of this kind; and
- by a suitably experienced SLR environmental consultant (Craig Cowper);

The appropriate media (soil) was sampled.

All critical soil sampling points were sampled.

9.1.2 Sample Identification, Storage and Transport

Samples were placed in laboratory prepared containers and zip lock plastic bags, and stored in eskies with ice, for transportation to the analytical laboratory, under chain of custody (COC) protocol. The following information was recorded on the COC:

- project job number;
- date of sampling;
- sample identifier;
- sample matrix and container type;
- preservation methods used;
- analysis requirements for each sample;
- turnaround times required for analysis; and
- names and signatures of sender and receiving laboratory.

Sample receipt advice from the receiving laboratories confirmed that the samples were received chilled (or an attempt to chill the samples was made).

A copy of the chain of custody documentation is presented in Appendix C for both the primary laboratory and the secondary laboratory.

9.1.3 Field Duplicates

A total of 34 primary soil samples were schedule for chemical analysis for the project.

Three intra-laboratory duplicate was collected and analysed (a rate of 11% which addresses the minimum acceptance criterion of 5%).

Three inter-laboratory duplicate were collected and analysed (a rate of 11% which addresses the minimum acceptance criterion of 5%). However, it is noted that a clerical error made when completing the chain of custody, resulted in the inter-laboratory duplicate being analysed by the primary lab, rather than a secondary lab. However, the detected analyte concentrations in the primary sample, intra-laboratory duplicate and inter-laboratory duplicate were all less than the relevant adopted assessment criteria, and within ranges expected, based on site history and field observations. This minor non-conformance with the data quality objectives is not considered to have a material impact on the quality of the data, or the conclusions drawn based on the data, within the context of this investigation.

The parent / duplicate sample relationships and associated laboratory analytical data, is presented in Table LR2. The relative percentage difference (RPD) acceptance limits adopted were:

- No limit analytical results <10 times LOR
- 50% analytical results 10-20 times LOR
- 30% analytical results >20 times LOR

The relative percentage difference (RPD) between the parent sample and duplicates analysed, were within the RPD acceptance criteria, with the exception of.

- Field duplicate DUP02 (parent sample TP02/0.6-0.8) had an exceeding RPD for copper and zinc;
- Field duplicate DUP03 and DUP03A (parent sample TP13/1.1-1.3) had an exceeding RPD for zinc;

The exceedances of the adopted RPD assessment criteria are therefore considered likely attributable to heterogeneity within the discrete fill soil samples (rather than sampling or laboratory analysis error). SLR notes that the parent and field duplicate / triplicate samples were not able to be homogenised prior to splitting, due to the potential for volatile contaminants to be present in this AEC.

9.1.4 Trip Spike and Trip Blank

One trip spike was used during the fieldwork and one was scheduled for BTEX analysis. The recovery results of the spike analysis were within the adopted acceptance criterion, indicating that sample preservation procedures during storage and transport were adequate for the mitigation of volatile sample losses from sample containers.

One trip blank was used during the fieldwork. The blank was not scheduled for analysis. However, the laboratory analytical results for volatile contaminants in the samples analysed were within expected ranges, based on site history and field observations. Given that BTEX concentrations in the primary samples analysed were less than the laboratory LOR, SLR consider the potential for cross contamination of volatile contaminants between samples, during storage and transport, was negligible.

9.1.5 Calibration

Sampling equipment used for the fieldwork, included a photoionisation detector (PID). A copy of the relevant calibration record for the equipment is presented in Appendix D.

9.2 Laboratory

Copies of the laboratory certificates of analysis, data quality objective reports, sample receipt advice and chain of custody records for the primary and secondary laboratories are presented in Appendix C.

The results of an assessment of laboratory analytical data quality indicate that:

- Laboratory analysis of the samples was undertaken by NATA accredited environmental testing laboratories (SGS Environmental, Alexandria NSW and Eurofins MGT, Lane Cove West NSW);
- The identified contaminants of potential concern were analysed for;
- The laboratory analytical methods and laboratory limits of reporting were appropriate for the objective of this project;
- The laboratory analytical methods and laboratory limits of reporting were consistent between the primary and secondary analytical laboratories;
- The same analytical laboratory was used for analysing all primary samples;
- The same analytical laboratory was used for analysing all secondary samples;

- Samples were extracted and analysed within applicable laboratory holding times;
- The laboratory sample surrogate recoveries were within laboratory acceptance criteria;
- The laboratory method blank analytical results were less than the laboratory limit of reporting;
- The relative percentage differences (RPD) between samples and laboratory prepared duplicates, were within the laboratories adopted acceptance criteria, with the exception of 3 metal analytes and 2 TRH analytes in SGS batch SE166371. The laboratory reported these exceedences to be the result of sample heterogeneity;
- The laboratory control sample recoveries were within the laboratory's adopted acceptance criteria; and
- The laboratory matrix spike recoveries were within the laboratory's adopted acceptance criteria, with the exception of two metal analytes in SGS batch SE166371. The laboratory reported these exceedences to be the result of matrix interference.

A copy of the laboratory data quality indicators is presented in Appendix C.

9.3 Data Quality Indicators

The assessment of field and laboratory data was compared to the data quality indicators adopted for the project. This assessment is presented in Table 10.

Table 10 Data Quality Indicator Assessment Results

Completeness		
Field Considerations	*Laboratory Considerations*	*Comment*
All critical locations sampled All samples collected (from grid and at depth) SOPs appropriate and complied with Experienced sampler Documentation correct	All critical samples analysed in accordance with the data quality objectives All analytes analysed in accordance with the data quality objectives Appropriate methods and LORs Sample documentation complete Sample holding times complied with	Acceptable
Comparability		
Field Considerations	*Laboratory Considerations*	*Comment*
Same SOPs used on each occasion Experienced sampler Climatic conditions (temperature, rainfall, wind) Same types of samples collected (filtered, size fractions)	Sample analytical methods used (including clean-up) Sample LORs (justify/quantify if different) Same laboratories (justify/quantify if different) Same units (justify/quantify if different)	Acceptable
Representativeness		

Field Considerations	*Laboratory Considerations*	*Comment*
Appropriate media sampled in accordance with the data quality objectives All media identified in DQO sampled	All samples analysed in accordance with the data quality objectives	Acceptable
Precision		
Field Considerations	*Laboratory Considerations*	*Comment*
SOPs appropriate and complied with	Analysis of: • laboratory and inter laboratory duplicates • field duplicates • laboratory-prepared volatile trip spikes	Acceptable
Accuracy (bias)		
Field Considerations	*Laboratory Considerations*	*Comment*
SOPs appropriate and complied with	Analysis of: • field blanks • rinsate blanks • reagent blanks • method blanks • matrix spikes • matrix spike duplicates • surrogate spikes • reference materials • laboratory control samples • laboratory-prepared spikes	Acceptable

The data is therefore considered to be adequately complete, comparable, representative, precise and accurate for the purpose of interpretation within the objective of this project.

10 DISCUSSION

A laboratory analytical data summary table for this investigation is presented in the attached Table LR1. The data contained in that summary table has been used for the purposes of assessing the contamination status of the site, in the context of the proposed land use scenario.

10.1 Human Health - Direct Contact Exposure Risks (Soils)

10.1.1 TRH

The detected concentrations of TRH C6-C10, TRH >C10-C16, TRH >C16-C34 and TRH >C34-C40 in the site investigation samples analysed were less than the adopted investigation criteria.

Further assessment, management or remediation of TRH direct contact exposure risks in soil at the site is considered not warranted.

10.1.2 BTEX

The detected concentrations of benzene, toluene, ethyl benzene and xylenes in the site investigation samples analysed were less than the adopted investigation criteria.

Further assessment, management or remediation of BTEX direct contact exposure risks in soil at the site is considered not warranted.

10.1.3 PAH

The detected concentrations of relevant PAH compounds in the site investigation samples analysed were less than the adopted investigation criteria.

Further assessment, management or remediation of PAH compounds direct contact exposure risks in soil at the site is considered not warranted.

10.1.4 Organochlorine Pesticides (OCP)

The detected concentrations of relevant OCP compounds in the site investigation samples analysed were less than the adopted investigation criteria.

Further assessment, management or remediation of OCP compounds direct contact exposure risks in soil at the site is considered not warranted.

10.1.5 Polychlorinated Biphenyl (PCB)

The detected concentrations of PCB in the site investigation samples analysed were less than the adopted investigation criteria.

Further assessment, management or remediation of PCB compounds direct contact exposure risks in soil at the site is considered not warranted.

10.1.6 Metals

The detected concentrations of arsenic, cadmium, chromium, copper, lead, nickel, zinc and mercury in the site investigation samples analysed were less than the adopted investigation criteria

Further assessment, management or remediation of direct contact exposure risks associated with these metals in soil at the site is considered not warranted.

10.1.7 Asbestos

No respirable fibres were detected in the samples analysed using trace analysis techniques.

Asbestos was not detected in the site investigation samples analysed.

Further assessment, management or remediation of asbestos in fill soils is considered not warranted.

10.2 Human Health – Vapour Intrusion (Soils)

10.2.1 Soil Sample Ionisable Volatile Organic Compounds

The results of the headspace screening indicated a low potential for ionisable volatile organic compounds to be present in the soils encountered.

10.2.2 BTEX

The concentrations of benzene, toluene, ethyl benzene and xylenes in the site investigation samples analysed were less than the adopted investigation criteria.

Further assessment, management or remediation of BTEX vapour intrusion risks in soil at the site is considered not warranted.

10.2.3 TRH

The concentrations of TRH C6-C10 (F1) and TRH >C10-C16 (F2) in the site investigation samples analysed were less than the adopted investigation criteria.

Further assessment, management or remediation of TRH vapour intrusion risks in soil at the site is considered not warranted.

10.3 TRH Management Limits (Soils)

The concentrations of TRH C6-C10, TRH >C10-C16, TRH >C16-C34 and TRH >C34-C40 in the site investigation samples analysed were less than the adopted management limit investigation criteria.

10.4 Aesthetics (Soils)

Evidence of widespread or significant staining, buried wastes, odour or potential asbestos containing materials, was not observed in the soils encountered during intrusive works. Further assessment, management or remediation of these potential aesthetic impacts on site is considered not warranted.

11 CONCLUSIONS AND RECOMMENDATIONS

Based on a review of the available desktop search data, observations made during fieldwork, and the results of sample laboratory analysis (in the context of the open space land use (sporting field) scenario for the site), SLR makes the following conclusions:

- The detected concentrations of the identified contaminants of potential concern in soils on the site are considered:
  - unlikely to present an unacceptable direct contact, soil vapour or vapour intrusion human health exposure risk;
  - unlikely to present an unacceptable risk of forming observable light non-aqueous phase liquid (LNAPL), fire / explosive hazards, or to buried infrastructure e.g. penetration of, or damage to, in-ground services by hydrocarbons; and
  - unlikely to present an unacceptable aesthetics risk.

Based on the available data and conclusions made, SLR makes the following recommendations:

- Should material need to be imported to the site, an appropriate management plan should be prepared and implemented, to control the type/s of fill being imported, and to mitigate land contamination risks associated with uncontrolled imported fill; and
- Should material on the site need to be excavated and disposed of, a waste classification for that material should be prepared beforehand in accordance with NSW EPA (2014), 'Waste Classification Guidelines, Part 1: Classifying Waste'.

This report must be read in conjunction with the limitations set out in Section 13 of this report.

12 REFERENCES

Friebel, E & Nadebaum, P 2011, 'Health screening levels for petroleum hydrocarbons in soil and groundwater. Part 2: Application document', CRC CARE Technical Report No. 10.

National Environment Protection Council (NEPC) 1999a, 'Schedule B(1) Guideline on Investigation Levels for Soil and Groundwater, National Environment Protection (Assessment of Site Contamination) Measure (NEPM) as amended in May 2013'.

National Environment Protection Council (NEPC) 1999b, 'Schedule B(2) Guideline on Site Characterisation, National Environment Protection (Assessment of Site Contamination) Measure (NEPM) as amended in May 2013'.

NSW DEC 2006, 'Contaminated Sites: Guidelines for the NSW Site Auditor Scheme (2nd edition)'.

NSW OEH 2011, 'Contaminated Sites: Guidelines for Consultants Reporting on Contaminated Sites'.

SLR 2017, 'Stage 1 Preliminary Site Investigation, Norman Griffiths Sportsground, Portion of Lot 6 in DP564939, Lofberg Road, West Pymble, NSW' dated 3 May 2017, ref: 610.17191-R01-v1.0.

13 LIMITATIONS

This report is for the exclusive use of Ku-ring-gai Council. No warranties or guarantees are expressed or should be inferred by any third parties. This report may not be relied upon by other parties without written consent from SLR Consulting.

This report has been prepared based on the scope of services (see below). SLR Consulting cannot be held responsible to the Client and/or others for any matters outside the agreed scope of services. Other parties should not rely upon this report and should make their own enquiries and obtain independent advice in relation to such matters.

This report has been prepared by SLR Consulting with reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with the Client. Information reported herein is based on the interpretation of data collected (data, surveys, analyses, designs, plans and other information), which has been accepted in good faith as being accurate and valid.

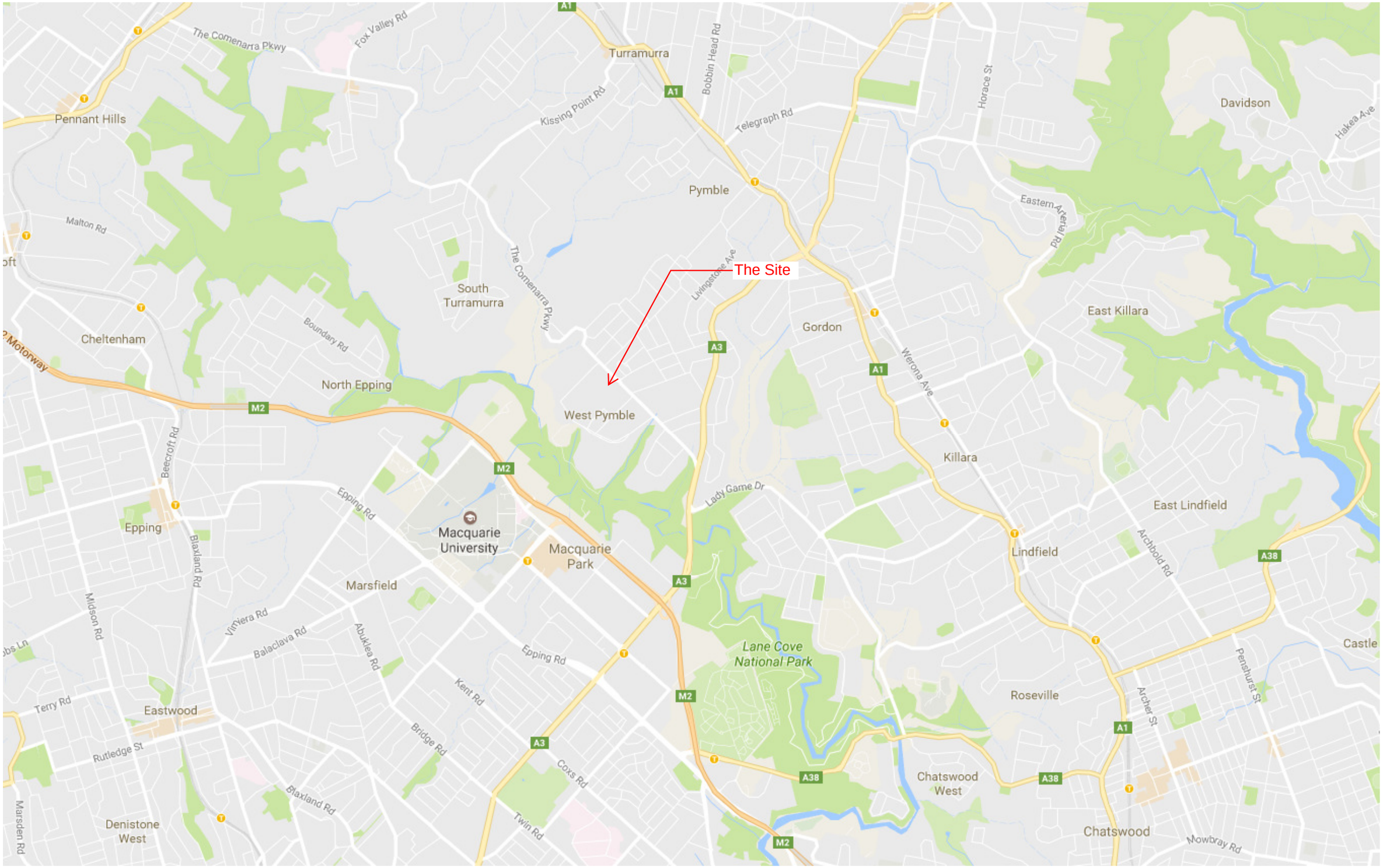
It should be noted that many investigations are based upon an assessment of potentially contaminating processes which may have occurred historically on the site. This assessment is based upon historical records associated with the site. Such records may be inaccurate, absent or contradictory. In addition documents may exist which are not readily available for public viewing.

Except where it has been stated in this report, SLR Consulting has not verified the accuracy or completeness of the data relied upon. Statements, opinions, facts, information, conclusions and/or recommendations made in this report ("conclusions") are based in whole or part on the data obtained, those conclusions are contingent upon the accuracy and completeness of the data. SLR Consulting cannot be held liable should any data, information or condition be incorrect or have been concealed, withheld, misrepresented or otherwise not fully disclosed to SLR Consulting leading to incorrect conclusions.

Should the report be reviewed for any reason, the report must be reviewed in its entirety and in conjunction with the associated Scope of Services. It should be understood that where a report has been developed for a specific purpose, for example a due diligence report for a property vendor, it may not be suitable for other purposes such as satisfying the needs of a purchaser or assessing contamination risks for classifying the site. The report should not be applied for any purpose other than that originally specified at the time the report was issued.

Report logs, figures, laboratory data, drawings, etc. are generated for this report by SLR consultants (unless otherwise stated) based on their individual interpretation of the site conditions at the time the site visit was undertaken. Although SLR consultants undergo training to achieve a standard of field reporting, individual interpretation still varies slightly. Information should not under any circumstances be redrawn for inclusion in other documents or separated from this report in any way.

FIGURES



SLR	2 Lincoln Street, Lane Cove, NSW 2066 Australia	T: +61 2 9428 8100 sydney@slrconsulting.com www.slrconsulting.com	Supplementary Contamination Assessment Ref: 610.17191.00001	Portion of Lot 6 in DP564939 Norman Griffiths Sportsground, Lofberg Road, West Pymble, NSW	7 June 2017	N

Figure 1

Site Locality Plan

SLR	2 Lincoln Street, Lane Cove, NSW 2066 Australia	T: +61 2 9428 8100 sydney@slrconsulting.com www.slrconsulting.com	Supplementary Contamination Assessment Ref: 610.17191.00001	Portion of Lot 6 in DP564939 Norman Griffiths Sportsground, Lofberg Road, West Pymble, NSW	7 June 2017	N	Figure 2 Site Layout Plan

SLR	2 Lincoln Street, Lane Cove, NSW 2066 Australia	T: +61 2 9428 8100 sydney@slrconsulting.com www.slrconsulting.com	Supplementary Contamination Assessment Ref: 610.17191.00001	Portion of Lot 6 in DP564939 Norman Griffiths Sportsground, Lofberg Road, West Pymble, NSW	7 June 2017	N	Figure 3 Areas of Environmental Concern

SLR	2 Lincoln Street, Lane Cove, NSW 2066 Australia	T: +61 2 9428 8100 sydney@slrconsulting.com www.slrconsulting.com	Supplementary Contamination Assessment Ref: 610.17191.00001	Portion of Lot 6 in DP564939 Norman Griffiths Sportsground, Lofberg Road, West Pymble, NSW	7 June 2017	Figure 4 Sampling Point Layout Plan

TABLES

						Sample Name	SE166371.001	SE166371.002	SE166371.003	SE166371.004	SE166371.005	SE166371.006	SE166371.007	SE166371.008	SE166371.009	SE166371.010	SE166371.011	SE166371.012	SE166371.013	SE166371.014	SE166371.015	SE166371.016	SE166371.017	SE166371.018	SE166371.019
						Description	TP01/0.0-0.2	TP02/0.2-0.4	TP02/0.6-0.8	TP02/0.8-1.0	TP03/0.0-0.1	TP04/0.1-0.3	TP05/0.3-0.5	TP05/1.1-1.3	TP06/0.0-0.2	TP06/0.2-0.4	TP07/0.0-0.1	TP08/0.15-0.35	TP09/0.2-0.4	TP10/0.7-0.9	TP10/0.1-0.3	TP10/0.7-0.9	TP10/1.3-1.5	TP11/0.3-0.5	TP11/1.0-1.2
						Sample Date	6-6-2017	6-6-2017	6-6-2017	6-6-2017	6-6-2017	6-6-2017	6-6-2017	6-6-2017	6-6-2017	6-6-2017	6-6-2017	6-6-2017	6-6-2017	6-6-2017	6-6-2017	6-6-2017	6-6-2017	6-6-2017	6-6-2017
						Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Analyte Name	**Units**	**Direct Contact HIL - Recreational C (mg/kg)**	**Soil Vapour Intrusion HSL C 0m to <1m (mg/kg)**	**Soil Vapour Intrusion HSL C 1m to <2m (mg/kg)**	**Management Limits for TPH Fraction F1-F4 in soil (mg/kg)**	**Reporting Limit**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
BTEXN in Soil																									
Benzene	mg/kg	120	NL	NL		0.1	N.A.	N.A.	<0.1	N.A.	N.A.	<0.1	N.A.	<0.1	N.A.	N.A.	N.A.	<0.1	<0.1	N.A.	N.A.	N.A.	<0.1	<0.1	N.A.
Toluene	mg/kg	18000	NL	NL		0.1	N.A.	N.A.	<0.1	N.A.	N.A.	<0.1	N.A.	<0.1	N.A.	N.A.	N.A.	<0.1	<0.1	N.A.	N.A.	N.A.	<0.1	<0.1	N.A.
Ethylbenzene	mg/kg	5300	NL	NL		0.1	N.A.	N.A.	<0.1	N.A.	N.A.	<0.1	N.A.	<0.1	N.A.	N.A.	N.A.	<0.1	<0.1	N.A.	N.A.	N.A.	<0.1	<0.1	N.A.
m/p-xylene	mg/kg					0.2	N.A.	N.A.	<0.2	N.A.	N.A.	<0.2	N.A.	<0.2	N.A.	N.A.	N.A.	<0.2	<0.2	N.A.	N.A.	N.A.	<0.2	<0.2	N.A.
o-xylene	mg/kg		NL	NL		0.1	N.A.	N.A.	<0.1	N.A.	N.A.	<0.1	N.A.	<0.1	N.A.	N.A.	N.A.	<0.1	<0.1	N.A.	N.A.	N.A.	<0.1	<0.1	N.A.
Total Xylenes	mg/kg	15000				0.3	N.A.	N.A.	<0.3	N.A.	N.A.	<0.3	N.A.	<0.3	N.A.	N.A.	N.A.	<0.3	<0.3	N.A.	N.A.	N.A.	<0.3	<0.3	N.A.
Naphthalene	mg/kg	1900	NL	NL		0.1	N.A.	N.A.	<0.1	N.A.	N.A.	<0.1	N.A.	<0.1	N.A.	N.A.	N.A.	<0.1	<0.1	N.A.	N.A.	N.A.	<0.1	<0.1	N.A.
TRH in Soil																									
Benzene (F0)	mg/kg		NL	NL		0.1	N.A.	N.A.	<0.1	N.A.	N.A.	<0.1	N.A.	<0.1	N.A.	N.A.	N.A.	<0.1	<0.1	N.A.	N.A.	N.A.	<0.1	<0.1	N.A.
TRH C6-C10	mg/kg				700	25	N.A.	N.A.	<25	N.A.	N.A.	<25	N.A.	<25	N.A.	N.A.	N.A.	<25	<25	N.A.	N.A.	N.A.	<25	<25	N.A.
TRH C6-C10 minus BTEX (F1)	mg/kg		NL	NL		25	N.A.	N.A.	<25	N.A.	N.A.	<25	N.A.	<25	N.A.	N.A.	N.A.	<25	<25	N.A.	N.A.	N.A.	<25	<25	N.A.
TRH >C10-C16 (F2)	mg/kg				1000	25	N.A.	N.A.	<25	N.A.	N.A.	<25	N.A.	<25	N.A.	N.A.	N.A.	<25	<25	N.A.	N.A.	N.A.	<25	<25	N.A.
TRH >C10-C16 (F2) - Naphthalene	mg/kg		NL	NL		25	N.A.	N.A.	<25	N.A.	N.A.	<25	N.A.	<25	N.A.	N.A.	N.A.	<25	<25	N.A.	N.A.	N.A.	<25	<25	N.A.
TRH >C16-C34 (F3)	mg/kg				2500	90	N.A.	N.A.	**220**	N.A.	N.A.	<90	N.A.	<90	N.A.	N.A.	N.A.	<90	<90	N.A.	N.A.	N.A.	<90	<90	N.A.
TRH >C34-C40 (F4)	mg/kg				10000	120	N.A.	N.A.	<120	N.A.	N.A.	<120	N.A.	<120	N.A.	N.A.	N.A.	<120	<120	N.A.	N.A.	N.A.	<120	<120	N.A.
PAH in Soil																									
Naphthalene	mg/kg	1900	NL	NL		0.1	<0.1	<0.1	N.A.	N.A.	<0.1	<0.1	<0.1	N.A.	<0.1	N.A.	<0.1	<0.1	<0.1	N.A.	N.A.	<0.1	N.A.	N.A.	<0.1
2-methylnaphthalene	mg/kg					0.1	<0.1	<0.1	N.A.	N.A.	<0.1	<0.1	<0.1	N.A.	<0.1	N.A.	<0.1	<0.1	<0.1	N.A.	N.A.	<0.1	N.A.	N.A.	<0.1
1-methylnaphthalene	mg/kg					0.1	<0.1	<0.1	N.A.	N.A.	<0.1	<0.1	<0.1	N.A.	<0.1	N.A.	<0.1	<0.1	<0.1	N.A.	N.A.	<0.1	N.A.	N.A.	<0.1
Acenaphthylene	mg/kg					0.1	<0.1	<0.1	N.A.	N.A.	<0.1	**0.1**	**0.2**	N.A.	<0.1	N.A.	<0.1	<0.1	<0.1	N.A.	N.A.	**0.2**	N.A.	N.A.	<0.1
Acenaphthene	mg/kg					0.1	<0.1	<0.1	N.A.	N.A.	<0.1	<0.1	<0.1	N.A.	<0.1	N.A.	<0.1	<0.1	<0.1	N.A.	N.A.	<0.1	N.A.	N.A.	<0.1
Fluorene	mg/kg					0.1	<0.1	<0.1	N.A.	N.A.	<0.1	**0.2**	<0.1	N.A.	<0.1	N.A.	<0.1	<0.1	<0.1	N.A.	N.A.	<0.1	N.A.	N.A.	<0.1
Phenanthrene	mg/kg					0.1	<0.1	<0.1	N.A.	N.A.	<0.1	**1.8**	**0.1**	N.A.	<0.1	N.A.	<0.1	<0.1	**0.4**	N.A.	N.A.	**0.3**	N.A.	N.A.	<0.1
Anthracene	mg/kg					0.1	<0.1	<0.1	N.A.	N.A.	<0.1	**0.5**	**0.2**	N.A.	<0.1	N.A.	<0.1	<0.1	**0.2**	N.A.	N.A.	<0.1	N.A.	N.A.	<0.1
Fluoranthene	mg/kg					0.1	<0.1	**0.2**	N.A.	N.A.	<0.1	**2.0**	**0.3**	N.A.	<0.1	N.A.	<0.1	<0.1	**0.8**	N.A.	N.A.	**0.6**	N.A.	N.A.	<0.1
Pyrene	mg/kg					0.1	<0.1	**0.2**	N.A.	N.A.	<0.1	**1.9**	**0.4**	N.A.	<0.1	N.A.	<0.1	<0.1	**0.7**	N.A.	N.A.	**0.6**	N.A.	N.A.	<0.1
Benzo(a)anthracene	mg/kg					0.1	<0.1	<0.1	N.A.	N.A.	<0.1	**0.5**	**0.2**	N.A.	<0.1	N.A.	<0.1	<0.1	**0.3**	N.A.	N.A.	**0.3**	N.A.	N.A.	<0.1
Chrysene	mg/kg					0.1	<0.1	<0.1	N.A.	N.A.	<0.1	**0.6**	**0.1**	N.A.	<0.1	N.A.	<0.1	<0.1	**0.3**	N.A.	N.A.	**0.3**	N.A.	N.A.	<0.1
Benzo(b&j)fluoranthene	mg/kg					0.1	<0.1	**0.1**	N.A.	N.A.	<0.1	**0.8**	**0.6**	N.A.	<0.1	N.A.	<0.1	<0.1	**0.5**	N.A.	N.A.	**0.5**	N.A.	N.A.	<0.1
Benzo(k)fluoranthene	mg/kg					0.1	<0.1	<0.1	N.A.	N.A.	<0.1	**0.5**	**0.2**	N.A.	<0.1	N.A.	<0.1	<0.1	**0.3**	N.A.	N.A.	**0.3**	N.A.	N.A.	<0.1
Benzo(a)pyrene	mg/kg					0.1	<0.1	<0.1	N.A.	N.A.	<0.1	**0.9**	**0.6**	N.A.	<0.1	N.A.	<0.1	<0.1	**0.6**	N.A.	N.A.	**0.6**	N.A.	N.A.	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg					0.1	<0.1	<0.1	N.A.	N.A.	<0.1	**0.6**	**0.6**	N.A.	<0.1	N.A.	<0.1	<0.1	**0.6**	N.A.	N.A.	**0.7**	N.A.	N.A.	<0.1
Dibenzo(ah)anthracene	mg/kg					0.1	<0.1	<0.1	N.A.	N.A.	<0.1	<0.1	**0.1**	N.A.	<0.1	N.A.	<0.1	<0.1	<0.1	N.A.	N.A.	<0.1	N.A.	N.A.	<0.1
Benzo(ghi)perylene	mg/kg					0.1	<0.1	<0.1	N.A.	N.A.	<0.1	**0.5**	**0.6**	N.A.	<0.1	N.A.	<0.1	<0.1	**0.5**	N.A.	N.A.	**0.7**	N.A.	N.A.	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ					0.2	<0.2	<0.2	N.A.	N.A.	<0.2	**1.1**	**0.9**	N.A.	<0.2	N.A.	<0.2	<0.2	**0.8**	N.A.	N.A.	**0.8**	N.A.	N.A.	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	3				0.3	<0.3	<0.3	N.A.	N.A.	<0.3	**1.2**	**0.9**	N.A.	<0.3	N.A.	<0.3	<0.3	**0.9**	N.A.	N.A.	**0.9**	N.A.	N.A.	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)					0.2	<0.2	<0.2	N.A.	N.A.	<0.2	**1.2**	**0.9**	N.A.	<0.2	N.A.	<0.2	<0.2	**0.8**	N.A.	N.A.	**0.8**	N.A.	N.A.	<0.2
Total PAH (18)	mg/kg					0.8	<0.8	<0.8	N.A.	N.A.	<0.8	**11**	**4.5**	N.A.	<0.8	N.A.	<0.8	<0.8	**5.0**	N.A.	N.A.	**4.9**	N.A.	N.A.	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	300				0.8	<0.8	<0.8	N.A.	N.A.	<0.8	**11**	**4.5**	N.A.	<0.8	N.A.	<0.8	<0.8	**5.0**	N.A.	N.A.	**4.9**	N.A.	N.A.	<0.8
OCP in Soil																									
Hexachlorobenzene (HCB)	mg/kg	10				0.1	N.A.	<0.1	N.A.	N.A.	N.A.	<0.1	N.A.	N.A.	N.A.	N.A.	N.A.	<0.1	N.A.	N.A.	<0.1	N.A.	N.A.	N.A.	N.A.
Alpha BHC	mg/kg					0.1	N.A.	<0.1	N.A.	N.A.	N.A.	<0.1	N.A.	N.A.	N.A.	N.A.	N.A.	<0.1	N.A.	N.A.	<0.1	N.A.	N.A.	N.A.	N.A.
Lindane	mg/kg					0.1	N.A.	<0.1	N.A.	N.A.	N.A.	<0.1	N.A.	N.A.	N.A.	N.A.	N.A.	<0.1	N.A.	N.A.	<0.1	N.A.	N.A.	N.A.	N.A.
Heptachlor	mg/kg	10				0.1	N.A.	<0.1	N.A.	N.A.	N.A.	<0.1	N.A.	N.A.	N.A.	N.A.	N.A.	<0.1	N.A.	N.A.	<0.1	N.A.	N.A.	N.A.	N.A.
Aldrin	mg/kg	10				0.1	N.A.	<0.1	N.A.	N.A.	N.A.	<0.1	N.A.	N.A.	N.A.	N.A.	N.A.	<0.1	N.A.	N.A.	<0.1	N.A.	N.A.	N.A.	N.A.
Dieldrin	mg/kg					0.2	N.A.	<0.2	N.A.	N.A.	N.A.	<0.2	N.A.	N.A.	N.A.	N.A.	N.A.	<0.2	N.A.	N.A.	<0.2	N.A.	N.A.	N.A.	N.A.
Beta BHC	mg/kg					0.1	N.A.	<0.1	N.A.	N.A.	N.A.	<0.1	N.A.	N.A.	N.A.	N.A.	N.A.	<0.1	N.A.	N.A.	<0.1	N.A.	N.A.	N.A.	N.A.
Delta BHC	mg/kg					0.1	N.A.	<0.1	N.A.	N.A.	N.A.	<0.1	N.A.	N.A.	N.A.	N.A.	N.A.	<0.1	N.A.	N.A.	<0.1	N.A.	N.A.	N.A.	N.A.
Heptachlor epoxide	mg/kg					0.1	N.A.	<0.1	N.A.	N.A.	N.A.	<0.1	N.A.	N.A.	N.A.	N.A.	N.A.	<0.1	N.A.	N.A.	<0.1	N.A.	N.A.	N.A.	N.A.
o,p'-DDT	mg/kg					0.1	N.A.	<0.1	N.A.	N.A.	N.A.	<0.1	N.A.	N.A.	N.A.	N.A.	N.A.	<0.1	N.A.	N.A.	<0.1	N.A.	N.A.	N.A.	N.A.
p,p'-DDT	mg/kg					0.1	N.A.	<0.1	N.A.	N.A.	N.A.	<0.1	N.A.	N.A.	N.A.	N.A.	N.A.	<0.1	N.A.	N.A.	<0.1	N.A.	N.A.	N.A.	N.A.
o,p'-DDE	mg/kg	400				0.1	N.A.	<0.1	N.A.	N.A.	N.A.	<0.1	N.A.	N.A.	N.A.	N.A.	N.A.	<0.1	N.A.	N.A.	<0.1	N.A.	N.A.	N.A.	N.A.
p,p'-DDE	mg/kg					0.1	N.A.	<0.1	N.A.	N.A.	N.A.	<0.1	N.A.	N.A.	N.A.	N.A.	N.A.	<0.1	N.A.	N.A.	<0.1	N.A.	N.A.	N.A.	N.A.
o,p'-DDD	mg/kg					0.1	N.A.	<0.1	N.A.	N.A.	N.A.	<0.1	N.A.	N.A.	N.A.	N.A.	N.A.	<0.1	N.A.	N.A.	<0.1	N.A.	N.A.	N.A.	N.A.
p,p'-DDD	mg/kg					0.1	N.A.	<0.1	N.A.	N.A.	N.A.	<0.1	N.A.	N.A.	N.A.	N.A.	N.A.	<0.1	N.A.	N.A.	<0.1	N.A.	N.A.	N.A.	N.A.
Alpha Endosulfan	mg/kg	340				0.2	N.A.	<0.2	N.A.	N.A.	N.A.	<0.2	N.A.	N.A.	N.A.	N.A.	N.A.	<0.2	N.A.	N.A.	<0.2	N.A.	N.A.	N.A.	N.A.
Beta Endosulfan	mg/kg					0.2	N.A.	<0.2	N.A.	N.A.	N.A.	<0.2	N.A.	N.A.	N.A.	N.A.	N.A.	<0.2	N.A.	N.A.	<0.2	N.A.	N.A.	N.A.	N.A.
Gamma Chlordane	mg/kg	70				0.1	N.A.	<0.1	N.A.	N.A.	N.A.	<0.1	N.A.	N.A.	N.A.	N.A.	N.A.	<0.1	N.A.	N.A.	<0.1	N.A.	N.A.	N.A.	N.A.
Alpha Chlordane	mg/kg					0.1	N.A.	<0.1	N.A.	N.A.	N.A.	<0.1	N.A.	N.A.	N.A.	N.A.	N.A.	<0.1	N.A.	N.A.	<0.1	N.A.	N.A.	N.A.	N.A.
trans-Nonachlor	mg/kg					0.1	N.A.	<0.1	N.A.	N.A.	N.A.	<0.1	N.A.	N.A.	N.A.	N.A.	N.A.	<0.1	N.A.	N.A.	<0.1	N.A.	N.A.	N.A.	N.A.
Endrin	mg/kg	20				0.2	N.A.	<0.2	N.A.	N.A.	N.A.	<0.2	N.A.	N.A.	N.A.	N.A.	N.A.	<0.2	N.A.	N.A.	<0.2	N.A.	N.A.	N.A.	N.A.
Endosulfan sulphate	mg/kg					0.1	N.A.	<0.1	N.A.	N.A.	N.A.	<0.1	N.A.	N.A.	N.A.	N.A.	N.A.	<0.1	N.A.	N.A.	<0.1	N.A.	N.A.	N.A.	N.A.
Endrin Aldehyde	mg/kg					0.1	N.A.	<0.1	N.A.	N.A.	N.A.	<0.1	N.A.	N.A.	N.A.	N.A.	N.A.	<0.1	N.A.	N.A.	<0.1	N.A.	N.A.	N.A.	N.A.
Methoxychlor	mg/kg	400				0.1	N.A.	<0.1	N.A.	N.A.	N.A.	<0.1	N.A.	N.A.	N.A.	N.A.	N.A.	<0.1	N.A.	N.A.	<0.1	N.A.	N.A.	N.A.	N.A.
Endrin Ketone	mg/kg					0.1	N.A.	<0.1	N.A.	N.A.	N.A.	<0.1	N.A.	N.A.	N.A.	N.A.	N.A.	<0.1	N.A.	N.A.	<0.1	N.A.	N.A.	N.A.	N.A.
Isodrin	mg/kg					0.1	N.A.	<0.1	N.A.	N.A.	N.A.	<0.1	N.A.	N.A.	N.A.	N.A.	N.A.	<0.1	N.A.	N.A.	<0.1	N.A.	N.A.	N.A.	N.A.
Mirex	mg/kg	20				0.1	N.A.	<0.1	N.A.	N.A.	N.A.	<0.1	N.A.	N.A.	N.A.	N.A.	N.A.	<0.1	N.A.	N.A.	<0.1	N.A.	N.A.	N.A.	N.A.
PCB in Soil																									
Arochlor 1016	mg/kg					0.2	N.A.	N.A.	<0.2	N.A.	N.A.	N.A.	<0.2	N.A.	N.A.	N.A.	N.A.	N.A.	<0.2	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Arochlor 1221	mg/kg					0.2	N.A.	N.A.	<0.2	N.A.	N.A.	N.A.	<0.2	N.A.	N.A.	N.A.	N.A.	N.A.	<0.2	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Arochlor 1232	mg/kg					0.2	N.A.	N.A.	<0.2	N.A.	N.A.	N.A.	<0.2	N.A.	N.A.	N.A.	N.A.	N.A.	<0.2	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Arochlor 1242	mg/kg					0.2	N.A.	N.A.	<0.2	N.A.	N.A.	N.A.	<0.2	N.A.	N.A.	N.A.	N.A.	N.A.	<0.2	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Arochlor 1248	mg/kg					0.2	N.A.	N.A.	<0.2	N.A.	N.A.	N.A.	<0.2	N.A.	N.A.	N.A.	N.A.	N.A.	<0.2	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Arochlor 1254	mg/kg					0.2	N.A.	N.A.	<0.2	N.A.	N.A.	N.A.	<0.2	N.A.	N.A.	N.A.	N.A.	N.A.	<0.2	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Arochlor 1260	mg/kg					0.2	N.A.	N.A.	<0.2	N.A.	N.A.	N.A.	<0.2	N.A.	N.A.	N.A.	N.A.	N.A.	<0.2	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Arochlor 1262	mg/kg					0.2	N.A.	N.A.	<0.2	N.A.	N.A.	N.A.	<0.2	N.A.	N.A.	N.A.	N.A.	N.A.	<0.2	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Arochlor 1268	mg/kg					0.2	N.A.	N.A.	<0.2	N.A.	N.A.	N.A.	<0.2	N.A.	N.A.	N.A.	N.A.	N.A.	<0.2	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Total PCBs (Arochlors)	mg/kg	1				1	N.A.	N.A.	<1	N.A.	N.A.	N.A.	<1	N.A.	N.A.	N.A.	N.A.	N.A.	<1	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Metals in Soil																									
Arsenic, As	mg/kg	300				3	<3	N.A.	**5**	**9**	<3	<3	**5**	N.A.	<3	<3	<3	**4**	**5**	<3	**4**	N.A.	**4**	**4**	N.A.
Cadmium, Cd	mg/kg	90				0.3	<0.3	N.A.	**0.3**	**0.3**	<0.3	<0.3	<0.3	N.A.	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	N.A.	<0.3	<0.3	N.A.
Chromium, Cr	mg/kg	300				0.3	**6.1**	N.A.	**19**	**21**	**6.3**	**8.4**	**14**	N.A.	**6.1**	**1.6**	**7.3**	**15**	**16**	**7.2**	**13**	N.A.	**18**	**11**	N.A.
Copper, Cu	mg/kg	17000				0.5	**4.8**	N.A.	**15**	**4.5**	**5.8**	**4.0**	**34**	N.A.	**8.3**	**1.1**	**17**	**4.5**	**6.9**	**1.2**	**9.5**	N.A.	**26**	**5.9**	N.A.
Lead, Pb	mg/kg	600				1	**12**	N.A.	**31**	**20**	**9**	**15**	**14**	N.A.	**12**	**5**	**12**	**11**	**15**	**7**	**19**	N.A.	**24**	**12**	N.A.
Nickel, Ni	mg/kg	1200				0.5	**4.2**	N.A.	**9.3**	**4.4**	**3.0**	**1.7**	**5.9**	N.A.	**4.8**	<0.5	**6.8**	**2.6**	**2.9**	**0.8**	**6.6**	N.A.	**27**	**2.0**	N.A.
Zinc, Zn	mg/kg	30000				0.5	**18**	N.A.	**61**	**19**	**20**	**12**	**27**	N.A.	**25**	**1.4**	**43**	**7.3**	**10**	**4.4**	**21**	N.A.	**39**	**13**	N.A.
Mercury	mg/kg	80				0.05	<0.05	N.A.	**0.08**	**0.08**	<0.05	<0.05	<0.05	N.A.	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	**0.19**	N.A.	<0.05	<0.05	N.A.
Asbestos in Soil																									
Asbestos Detected	No unit	Yes				0	N.A.	No	N.A.	N.A.	N.A.	No	No	No	N.A.	N.A.	N.A.	No	No	N.A.	N.A.	No	N.A.	No	N.A.

Table LR1
Laboratory Analytical Results - Soils

						Sample Name	SE166371.020	SE166371.021	SE166371.022	SE166371.023	SE166371.024	SE166371.025	SE166371.026	SE166371.027	SE166371.028	SE166371.029	SE166371.030	SE166371.031	SE166371.032	SE166371.033	SE166371.034
						Description	TP12/0.0-0.2	TP12/0.3-0.5	TP13/0.0-0.2	TP13/0.6-0.8	TP13/1.1-1.3	TP14/0.0-0.2	TP14/0.3-0.5	TP15/0.0-0.2	TP15/0.6-.8	TP15/1.3-1.5	TP15/2.0-2.2	TP16/0.1-0.3	TP16/0.8-1.0	TP16/1.4-1.6	TP16/1.8-2.0
						Sample Date	6-6-2017	6-6-2017	6-6-2017	6-6-2017	6-6-2017	6-6-2017	6-6-2017	6-6-2017	6-6-2017	6-6-2017	6-6-2017	6-6-2017	6-6-2017	6-6-2017	6-6-2017
						Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Analyte Name	**Units**	**Direct Contact HIL - Recreational C (mg/kg)**	**Soil Vapour Intrusion HSL C 0m to <1m (mg/kg)**	**Soil Vapour Intrusion HSL C 1m to <2m (mg/kg)**	**Management Limits for TPH Fraction F1-F4 in soil (mg/kg)**	**Reporting Limit**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
BTEXN in Soil																					
Benzene	mg/kg	120	NL	NL		0.1	<0.1	N.A.	N.A.	N.A.	<0.1	N.A.	<0.1	N.A.	N.A.	N.A.	<0.1	N.A.	N.A.	N.A.	<0.1
Toluene	mg/kg	18000	NL	NL		0.1	<0.1	N.A.	N.A.	N.A.	<0.1	N.A.	<0.1	N.A.	N.A.	N.A.	<0.1	N.A.	N.A.	N.A.	<0.1
Ethylbenzene	mg/kg	5300	NL	NL		0.1	<0.1	N.A.	N.A.	N.A.	<0.1	N.A.	<0.1	N.A.	N.A.	N.A.	<0.1	N.A.	N.A.	N.A.	<0.1
m/p-xylene	mg/kg					0.2	<0.2	N.A.	N.A.	N.A.	<0.2	N.A.	<0.2	N.A.	N.A.	N.A.	<0.2	N.A.	N.A.	N.A.	<0.2
o-xylene	mg/kg		NL	NL		0.1	<0.1	N.A.	N.A.	N.A.	<0.1	N.A.	<0.1	N.A.	N.A.	N.A.	<0.1	N.A.	N.A.	N.A.	<0.1
Total Xylenes	mg/kg	15000				0.3	<0.3	N.A.	N.A.	N.A.	<0.3	N.A.	<0.3	N.A.	N.A.	N.A.	<0.3	N.A.	N.A.	N.A.	<0.3
Naphthalene	mg/kg	1900	NL	NL		0.1	<0.1	N.A.	N.A.	N.A.	<0.1	N.A.	<0.1	N.A.	N.A.	N.A.	<0.1	N.A.	N.A.	N.A.	<0.1
TRH in Soil																					
Benzene (F0)	mg/kg		NL	NL		0.1	<0.1	N.A.	N.A.	N.A.	<0.1	N.A.	<0.1	N.A.	N.A.	N.A.	<0.1	N.A.	N.A.	N.A.	<0.1
TRH C6-C10	mg/kg				700	25	<25	N.A.	N.A.	N.A.	<25	N.A.	<25	N.A.	N.A.	N.A.	<25	N.A.	N.A.	N.A.	<25
TRH C6-C10 minus BTEX (F1)	mg/kg		NL	NL		25	<25	N.A.	N.A.	N.A.	<25	N.A.	<25	N.A.	N.A.	N.A.	<25	N.A.	N.A.	N.A.	<25
TRH >C10-C16 (F2)	mg/kg				1000	25	<25	N.A.	N.A.	N.A.	<25	N.A.	<25	N.A.	N.A.	N.A.	<25	N.A.	N.A.	N.A.	<25
TRH >C10-C16 (F2) - Naphthalene	mg/kg		NL	NL		25	<25	N.A.	N.A.	N.A.	<25	N.A.	<25	N.A.	N.A.	N.A.	<25	N.A.	N.A.	N.A.	<25
TRH >C16-C34 (F3)	mg/kg				2500	90	<90	N.A.	N.A.	N.A.	<90	N.A.	**200**	N.A.	N.A.	N.A.	<90	N.A.	N.A.	N.A.	<90
TRH >C34-C40 (F4)	mg/kg				10000	120	<120	N.A.	N.A.	N.A.	<120	N.A.	<120	N.A.	N.A.	N.A.	<120	N.A.	N.A.	N.A.	<120
PAH in Soil																					
Naphthalene	mg/kg	1900	NL	NL		0.1	<0.1	N.A.	<0.1	N.A.	N.A.	<0.1	N.A.	N.A.	<0.1	N.A.	N.A.	<0.1	<0.1	N.A.	N.A.
2-methylnaphthalene	mg/kg					0.1	<0.1	N.A.	<0.1	N.A.	N.A.	<0.1	N.A.	N.A.	<0.1	N.A.	N.A.	<0.1	<0.1	N.A.	N.A.
1-methylnaphthalene	mg/kg					0.1	<0.1	N.A.	<0.1	N.A.	N.A.	<0.1	N.A.	N.A.	<0.1	N.A.	N.A.	<0.1	<0.1	N.A.	N.A.
Acenaphthylene	mg/kg					0.1	<0.1	N.A.	**0.1**	N.A.	N.A.	<0.1	N.A.	N.A.	<0.1	N.A.	N.A.	<0.1	**0.3**	N.A.	N.A.
Acenaphthene	mg/kg					0.1	<0.1	N.A.	<0.1	N.A.	N.A.	<0.1	N.A.	N.A.	<0.1	N.A.	N.A.	<0.1	<0.1	N.A.	N.A.
Fluorene	mg/kg					0.1	<0.1	N.A.	<0.1	N.A.	N.A.	<0.1	N.A.	N.A.	<0.1	N.A.	N.A.	<0.1	<0.1	N.A.	N.A.
Phenanthrene	mg/kg					0.1	<0.1	N.A.	**0.3**	N.A.	N.A.	**0.3**	N.A.	N.A.	**0.2**	N.A.	N.A.	**0.2**	**1.1**	N.A.	N.A.
Anthracene	mg/kg					0.1	<0.1	N.A.	<0.1	N.A.	N.A.	<0.1	N.A.	N.A.	<0.1	N.A.	N.A.	<0.1	**0.3**	N.A.	N.A.
Fluoranthene	mg/kg					0.1	<0.1	N.A.	**1.0**	N.A.	N.A.	**0.7**	N.A.	N.A.	**0.4**	N.A.	N.A.	**0.6**	**2.9**	N.A.	N.A.
Pyrene	mg/kg					0.1	<0.1	N.A.	**1.0**	N.A.	N.A.	**0.7**	N.A.	N.A.	**0.4**	N.A.	N.A.	**0.5**	**2.9**	N.A.	N.A.
Benzo(a)anthracene	mg/kg					0.1	<0.1	N.A.	**0.6**	N.A.	N.A.	**0.4**	N.A.	N.A.	**0.2**	N.A.	N.A.	**0.3**	**1.5**	N.A.	N.A.
Chrysene	mg/kg					0.1	<0.1	N.A.	**0.5**	N.A.	N.A.	**0.3**	N.A.	N.A.	**0.2**	N.A.	N.A.	**0.2**	**1.1**	N.A.	N.A.
Benzo(b&j)fluoranthene	mg/kg					0.1	<0.1	N.A.	**0.8**	N.A.	N.A.	**0.4**	N.A.	N.A.	**0.3**	N.A.	N.A.	**0.3**	**2.0**	N.A.	N.A.
Benzo(k)fluoranthene	mg/kg					0.1	<0.1	N.A.	**0.5**	N.A.	N.A.	**0.3**	N.A.	N.A.	**0.2**	N.A.	N.A.	**0.2**	**1.0**	N.A.	N.A.
Benzo(a)pyrene	mg/kg					0.1	<0.1	N.A.	**0.8**	N.A.	N.A.	**0.4**	N.A.	N.A.	**0.3**	N.A.	N.A.	**0.3**	**2.0**	N.A.	N.A.
Indeno(1,2,3-cd)pyrene	mg/kg					0.1	<0.1	N.A.	**0.6**	N.A.	N.A.	**0.3**	N.A.	N.A.	**0.2**	N.A.	N.A.	**0.3**	**1.3**	N.A.	N.A.
Dibenzo(ah)anthracene	mg/kg					0.1	<0.1	N.A.	<0.1	N.A.	N.A.	<0.1	N.A.	N.A.	<0.1	N.A.	N.A.	<0.1	**0.3**	N.A.	N.A.
Benzo(ghi)perylene	mg/kg					0.1	<0.1	N.A.	**0.7**	N.A.	N.A.	**0.4**	N.A.	N.A.	**0.3**	N.A.	N.A.	**0.3**	**2.1**	N.A.	N.A.
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ					0.2	<0.2	N.A.	**1.1**	N.A.	N.A.	**0.6**	N.A.	N.A.	**0.3**	N.A.	N.A.	**0.4**	**2.9**	N.A.	N.A.
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	3				0.3	<0.3	N.A.	**1.2**	N.A.	N.A.	**0.7**	N.A.	N.A.	**0.4**	N.A.	N.A.	**0.5**	**2.9**	N.A.	N.A.
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)					0.2	<0.2	N.A.	**1.1**	N.A.	N.A.	**0.6**	N.A.	N.A.	**0.4**	N.A.	N.A.	**0.5**	**2.9**	N.A.	N.A.
Total PAH (18)	mg/kg					0.8	<0.8	N.A.	**7.0**	N.A.	N.A.	**4.1**	N.A.	N.A.	**2.4**	N.A.	N.A.	**3.2**	**19**	N.A.	N.A.
Total PAH (NEPM/WHO 16)	mg/kg	300				0.8	<0.8	N.A.	**7.0**	N.A.	N.A.	**4.1**	N.A.	N.A.	**2.4**	N.A.	N.A.	**3.2**	**19**	N.A.	N.A.
OCP in Soil																					
Hexachlorobenzene (HCB)	mg/kg	10				0.1	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	<0.1	N.A.	N.A.	<0.1	N.A.	N.A.	N.A.	N.A.	N.A.
Alpha BHC	mg/kg					0.1	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	<0.1	N.A.	N.A.	<0.1	N.A.	N.A.	N.A.	N.A.	N.A.
Lindane	mg/kg					0.1	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	<0.1	N.A.	N.A.	<0.1	N.A.	N.A.	N.A.	N.A.	N.A.
Heptachlor	mg/kg	10				0.1	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	<0.1	N.A.	N.A.	<0.1	N.A.	N.A.	N.A.	N.A.	N.A.
Aldrin	mg/kg	10				0.1	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	<0.1	N.A.	N.A.	<0.1	N.A.	N.A.	N.A.	N.A.	N.A.
Dieldrin	mg/kg					0.2	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	<0.2	N.A.	N.A.	<0.2	N.A.	N.A.	N.A.	N.A.	N.A.
Beta BHC	mg/kg					0.1	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	<0.1	N.A.	N.A.	<0.1	N.A.	N.A.	N.A.	N.A.	N.A.
Delta BHC	mg/kg					0.1	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	<0.1	N.A.	N.A.	<0.1	N.A.	N.A.	N.A.	N.A.	N.A.
Heptachlor epoxide	mg/kg					0.1	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	<0.1	N.A.	N.A.	<0.1	N.A.	N.A.	N.A.	N.A.	N.A.
o,p'-DDT	mg/kg					0.1	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	<0.1	N.A.	N.A.	<0.1	N.A.	N.A.	N.A.	N.A.	N.A.
p,p'-DDT	mg/kg					0.1	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	<0.1	N.A.	N.A.	<0.1	N.A.	N.A.	N.A.	N.A.	N.A.
o,p'-DDE	mg/kg	400				0.1	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	<0.1	N.A.	N.A.	<0.1	N.A.	N.A.	N.A.	N.A.	N.A.
p,p'-DDE	mg/kg					0.1	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	<0.1	N.A.	N.A.	<0.1	N.A.	N.A.	N.A.	N.A.	N.A.
o,p'-DDD	mg/kg					0.1	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	<0.1	N.A.	N.A.	<0.1	N.A.	N.A.	N.A.	N.A.	N.A.
p,p'-DDD	mg/kg					0.1	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	<0.1	N.A.	N.A.	<0.1	N.A.	N.A.	N.A.	N.A.	N.A.
Alpha Endosulfan	mg/kg	340				0.2	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	<0.2	N.A.	N.A.	<0.2	N.A.	N.A.	N.A.	N.A.	N.A.
Beta Endosulfan	mg/kg					0.2	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	<0.2	N.A.	N.A.	<0.2	N.A.	N.A.	N.A.	N.A.	N.A.
Gamma Chlordane	mg/kg	70				0.1	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	<0.1	N.A.	N.A.	<0.1	N.A.	N.A.	N.A.	N.A.	N.A.
Alpha Chlordane	mg/kg					0.1	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	<0.1	N.A.	N.A.	<0.1	N.A.	N.A.	N.A.	N.A.	N.A.
trans-Nonachlor	mg/kg					0.1	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	<0.1	N.A.	N.A.	<0.1	N.A.	N.A.	N.A.	N.A.	N.A.
Endrin	mg/kg	20				0.2	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	<0.2	N.A.	N.A.	<0.2	N.A.	N.A.	N.A.	N.A.	N.A.
Endosulfan sulphate	mg/kg					0.1	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	<0.1	N.A.	N.A.	<0.1	N.A.	N.A.	N.A.	N.A.	N.A.
Endrin Aldehyde	mg/kg					0.1	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	<0.1	N.A.	N.A.	<0.1	N.A.	N.A.	N.A.	N.A.	N.A.
Methoxychlor	mg/kg	400				0.1	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	<0.1	N.A.	N.A.	<0.1	N.A.	N.A.	N.A.	N.A.	N.A.
Endrin Ketone	mg/kg					0.1	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	<0.1	N.A.	N.A.	<0.1	N.A.	N.A.	N.A.	N.A.	N.A.
Isodrin	mg/kg					0.1	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	<0.1	N.A.	N.A.	<0.1	N.A.	N.A.	N.A.	N.A.	N.A.
Mirex	mg/kg	20				0.1	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	<0.1	N.A.	N.A.	<0.1	N.A.	N.A.	N.A.	N.A.	N.A.
PCB in Soil																					
Arochlor 1016	mg/kg					0.2	N.A.	N.A.	N.A.	<0.2	N.A.	N.A.	N.A.	<0.2	N.A.	N.A.	N.A.	N.A.	N.A.	<0.2	N.A.
Arochlor 1221	mg/kg					0.2	N.A.	N.A.	N.A.	<0.2	N.A.	N.A.	N.A.	<0.2	N.A.	N.A.	N.A.	N.A.	N.A.	<0.2	N.A.
Arochlor 1232	mg/kg					0.2	N.A.	N.A.	N.A.	<0.2	N.A.	N.A.	N.A.	<0.2	N.A.	N.A.	N.A.	N.A.	N.A.	<0.2	N.A.
Arochlor 1242	mg/kg					0.2	N.A.	N.A.	N.A.	<0.2	N.A.	N.A.	N.A.	<0.2	N.A.	N.A.	N.A.	N.A.	N.A.	<0.2	N.A.
Arochlor 1248	mg/kg					0.2	N.A.	N.A.	N.A.	<0.2	N.A.	N.A.	N.A.	<0.2	N.A.	N.A.	N.A.	N.A.	N.A.	<0.2	N.A.
Arochlor 1254	mg/kg					0.2	N.A.	N.A.	N.A.	<0.2	N.A.	N.A.	N.A.	<0.2	N.A.	N.A.	N.A.	N.A.	N.A.	<0.2	N.A.
Arochlor 1260	mg/kg					0.2	N.A.	N.A.	N.A.	<0.2	N.A.	N.A.	N.A.	<0.2	N.A.	N.A.	N.A.	N.A.	N.A.	<0.2	N.A.
Arochlor 1262	mg/kg					0.2	N.A.	N.A.	N.A.	<0.2	N.A.	N.A.	N.A.	<0.2	N.A.	N.A.	N.A.	N.A.	N.A.	<0.2	N.A.
Arochlor 1268	mg/kg					0.2	N.A.	N.A.	N.A.	<0.2	N.A.	N.A.	N.A.	<0.2	N.A.	N.A.	N.A.	N.A.	N.A.	<0.2	N.A.
Total PCBs (Arochlors)	mg/kg	1				1	N.A.	N.A.	N.A.	<1	N.A.	N.A.	N.A.	<1	N.A.	N.A.	N.A.	N.A.	N.A.	<1	N.A.
Metals in Soil																					
Arsenic, As	mg/kg	300				3	**3**	**4**	N.A.	**4**	<3	N.A.	**4**	**5**	N.A.	**5**	N.A.	N.A.	**5**	**5**	N.A.
Cadmium, Cd	mg/kg	90				0.3	<0.3	<0.3	N.A.	**0.3**	<0.3	N.A.	<0.3	<0.3	N.A.	**0.3**	N.A.	N.A.	<0.3	<0.3	N.A.
Chromium, Cr	mg/kg	300				0.3	**7.3**	**15**	N.A.	**26**	**7.2**	N.A.	**15**	**11**	N.A.	**29**	N.A.	N.A.	**28**	**13**	N.A.
Copper, Cu	mg/kg	17000				0.5	**8.9**	**2.7**	N.A.	**20**	**6.5**	N.A.	**13**	**10**	N.A.	**20**	N.A.	N.A.	**18**	**5.9**	N.A.
Lead, Pb	mg/kg	600				1	**15**	**9**	N.A.	**41**	**14**	N.A.	**27**	**25**	N.A.	**39**	N.A.	N.A.	**46**	**18**	N.A.
Nickel, Ni	mg/kg	1200				0.5	**7.4**	**1.3**	N.A.	**29**	**4.7**	N.A.	**17**	**6.9**	N.A.	**21**	N.A.	N.A.	**30**	**4.7**	N.A.
Zinc, Zn	mg/kg	30000				0.5	**24**	**3.4**	N.A.	**59**	**54**	N.A.	**32**	**50**	N.A.	**49**	N.A.	N.A.	**48**	**22**	N.A.
Mercury	mg/kg	80				0.05	<0.05	<0.05	N.A.	<0.05	<0.05	N.A.	**0.08**	<0.05	N.A.	<0.05	N.A.	N.A.	<0.05	<0.05	N.A.
Asbestos in Soil																					
Asbestos Detected	No unit	Yes				0	N.A.	N.A.	No	N.A.	N.A.	No	N.A.	No	N.A.	No	N.A.	No	No	N.A.	N.A.

Table LR2
Laboratory Anayltical Results - RPD %

Sample Name			SE166371.003	SE166371.037		SE166371.038			SE166371.005	SE166371.035		SE166371.036			SE166371.024	SE166371.039		SE166371.040	
Description			TP02/0.6-0.8	DUP02		DUP02A			TP03/0.0-0.1	DUP01		DUP01A			TP13/1.1-1.3	DUP03		DUP03A	
Sample Date			6-6-2017	6-6-2017	RPD %	6-6-2017	RPD %		6-6-2017	6-6-2017	RPD %	6-6-2017	RPD %		6-6-2017	6-6-2017	RPD %	6-6-2017	RPD %
Matrix			Soil	Soil		Soil			Soil	Soil		Soil			Soil	Soil		Soil	
Analyte Name	**Units**	**Reporting Limit**	**Result**	**Result**		**Result**			**Result**	**Result**		**Result**			**Result**	**Result**		**Result**	
PAH in Soil																			
Naphthalene	mg/kg	0.1	N.A.	N.A.	#VALUE!	N.A.	#VALUE!		<0.1	<0.1	#VALUE!	<0.1	#VALUE!		N.A.	N.A.	#VALUE!	N.A.	#VALUE!
2-methylnaphthalene	mg/kg	0.1	N.A.	N.A.	#VALUE!	N.A.	#VALUE!		<0.1	<0.1	#VALUE!	<0.1	#VALUE!		N.A.	N.A.	#VALUE!	N.A.	#VALUE!
1-methylnaphthalene	mg/kg	0.1	N.A.	N.A.	#VALUE!	N.A.	#VALUE!		<0.1	<0.1	#VALUE!	<0.1	#VALUE!		N.A.	N.A.	#VALUE!	N.A.	#VALUE!
Acenaphthylene	mg/kg	0.1	N.A.	N.A.	#VALUE!	N.A.	#VALUE!		<0.1	<0.1	#VALUE!	<0.1	#VALUE!		N.A.	N.A.	#VALUE!	N.A.	#VALUE!
Acenaphthene	mg/kg	0.1	N.A.	N.A.	#VALUE!	N.A.	#VALUE!		<0.1	<0.1	#VALUE!	<0.1	#VALUE!		N.A.	N.A.	#VALUE!	N.A.	#VALUE!
Fluorene	mg/kg	0.1	N.A.	N.A.	#VALUE!	N.A.	#VALUE!		<0.1	<0.1	#VALUE!	<0.1	#VALUE!		N.A.	N.A.	#VALUE!	N.A.	#VALUE!
Phenanthrene	mg/kg	0.1	N.A.	N.A.	#VALUE!	N.A.	#VALUE!		<0.1	<0.1	#VALUE!	<0.1	#VALUE!		N.A.	N.A.	#VALUE!	N.A.	#VALUE!
Anthracene	mg/kg	0.1	N.A.	N.A.	#VALUE!	N.A.	#VALUE!		<0.1	<0.1	#VALUE!	<0.1	#VALUE!		N.A.	N.A.	#VALUE!	N.A.	#VALUE!
Fluoranthene	mg/kg	0.1	N.A.	N.A.	#VALUE!	N.A.	#VALUE!		<0.1	<0.1	#VALUE!	<0.1	#VALUE!		N.A.	N.A.	#VALUE!	N.A.	#VALUE!
Pyrene	mg/kg	0.1	N.A.	N.A.	#VALUE!	N.A.	#VALUE!		<0.1	<0.1	#VALUE!	<0.1	#VALUE!		N.A.	N.A.	#VALUE!	N.A.	#VALUE!
Benzo(a)anthracene	mg/kg	0.1	N.A.	N.A.	#VALUE!	N.A.	#VALUE!		<0.1	<0.1	#VALUE!	<0.1	#VALUE!		N.A.	N.A.	#VALUE!	N.A.	#VALUE!
Chrysene	mg/kg	0.1	N.A.	N.A.	#VALUE!	N.A.	#VALUE!		<0.1	<0.1	#VALUE!	<0.1	#VALUE!		N.A.	N.A.	#VALUE!	N.A.	#VALUE!
Benzo(b&j)fluoranthene	mg/kg	0.1	N.A.	N.A.	#VALUE!	N.A.	#VALUE!		<0.1	<0.1	#VALUE!	<0.1	#VALUE!		N.A.	N.A.	#VALUE!	N.A.	#VALUE!
Benzo(k)fluoranthene	mg/kg	0.1	N.A.	N.A.	#VALUE!	N.A.	#VALUE!		<0.1	<0.1	#VALUE!	<0.1	#VALUE!		N.A.	N.A.	#VALUE!	N.A.	#VALUE!
Benzo(a)pyrene	mg/kg	0.1	N.A.	N.A.	#VALUE!	N.A.	#VALUE!		<0.1	<0.1	#VALUE!	<0.1	#VALUE!		N.A.	N.A.	#VALUE!	N.A.	#VALUE!
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	N.A.	N.A.	#VALUE!	N.A.	#VALUE!		<0.1	<0.1	#VALUE!	<0.1	#VALUE!		N.A.	N.A.	#VALUE!	N.A.	#VALUE!
Dibenzo(ah)anthracene	mg/kg	0.1	N.A.	N.A.	#VALUE!	N.A.	#VALUE!		<0.1	<0.1	#VALUE!	<0.1	#VALUE!		N.A.	N.A.	#VALUE!	N.A.	#VALUE!
Benzo(ghi)perylene	mg/kg	0.1	N.A.	N.A.	#VALUE!	N.A.	#VALUE!		<0.1	<0.1	#VALUE!	<0.1	#VALUE!		N.A.	N.A.	#VALUE!	N.A.	#VALUE!
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ	0.2	N.A.	N.A.	#VALUE!	N.A.	#VALUE!		<0.2	<0.2	#VALUE!	<0.2	#VALUE!		N.A.	N.A.	#VALUE!	N.A.	#VALUE!
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	N.A.	N.A.	#VALUE!	N.A.	#VALUE!		<0.3	<0.3	#VALUE!	<0.3	#VALUE!		N.A.	N.A.	#VALUE!	N.A.	#VALUE!
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	N.A.	N.A.	#VALUE!	N.A.	#VALUE!		<0.2	<0.2	#VALUE!	<0.2	#VALUE!		N.A.	N.A.	#VALUE!	N.A.	#VALUE!
Total PAH (18)	mg/kg	0.8	N.A.	N.A.	#VALUE!	N.A.	#VALUE!		<0.8	<0.8	#VALUE!	<0.8	#VALUE!		N.A.	N.A.	#VALUE!	N.A.	#VALUE!
Total PAH (NEPM/WHO 16)	mg/kg	0.8	N.A.	N.A.	#VALUE!	N.A.	#VALUE!		<0.8	<0.8	#VALUE!	<0.8	#VALUE!		N.A.	N.A.	#VALUE!	N.A.	#VALUE!
Metals in Soil																			
Arsenic, As	mg/kg	3	5	6	18	7	33		<3	N.A.	#VALUE!	N.A.	#VALUE!		<3	3	#VALUE!	<3	#VALUE!
Cadmium, Cd	mg/kg	0.3	0.3	<0.3	#VALUE!	<0.3	#VALUE!		<0.3	N.A.	#VALUE!	N.A.	#VALUE!		<0.3	<0.3	#VALUE!	<0.3	#VALUE!
Chromium, Cr	mg/kg	0.3	19	21	10	17	11		6.3	N.A.	#VALUE!	N.A.	#VALUE!		7.2	8.3	14	7.9	9
Copper, Cu	mg/kg	0.5	15	9.1	**49**	13	14		5.8	N.A.	#VALUE!	N.A.	#VALUE!		6.5	8.4	26	5.9	10
Lead, Pb	mg/kg	1	31	25	21	27	14		9	N.A.	#VALUE!	N.A.	#VALUE!		14	17	19	18	25
Nickel, Ni	mg/kg	0.5	9.3	5.1	58	10	7		3.0	N.A.	#VALUE!	N.A.	#VALUE!		4.7	6.6	34	4.6	2
Zinc, Zn	mg/kg	0.5	61	35	**54**	50	20		20	N.A.	#VALUE!	N.A.	#VALUE!		54	20	**92**	15	**113**
Mercury	mg/kg	0.05	0.06	<0.05	#VALUE!	0.06	0		<0.05	N.A.	#VALUE!	N.A.	#VALUE!		<0.05	<0.05	#VALUE!	<0.05	#VALUE!

DETAIL AND LEVEL SURVEY

NOTES:

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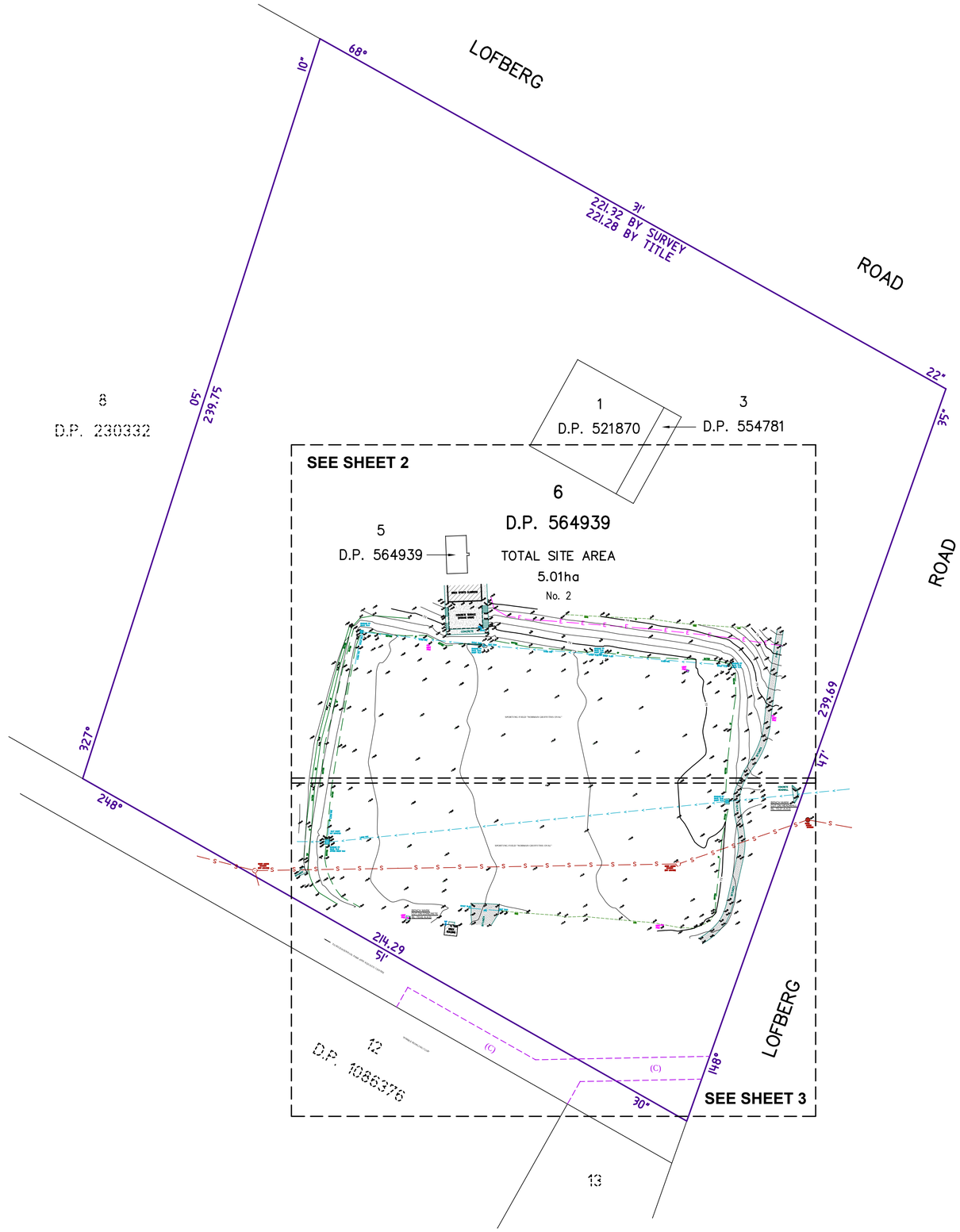

M.G.A.
(MAP GRID of AUSTRALIA.)
(APPROXIMATE TRUE NORTH)

0 7.5 15 22.5 30 37.5 75 METRES

SCALE 1:750

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PLAN SHOWING BOUNDARIES, RELATIVE HEIGHTS & PHYSICAL FEATURES OVER LOT 6 IN D.P. 564939 KNOWN AS No. 2 LOFBERG ROAD, WEST PYMBLE "NORMAN GRIFFITHS OVAL".

L.G.A.: KU-RING-GAI

CLIENT	KU-RING-GAI COUNCIL			REF No. 19374
PROPERTY	No. 2 LOFBERG ROAD, WEST PYMBLE "NORMAN GRIFFITHS OVAL"			
DATUM	A.H.D.	SCALE 1:750 @ A1	DATE 12/03/2015	SHEET No. 1 of 3
SURVEYED	J.G.	DRAWN H.H.	DWG No. 19374	REV No. 00

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M.G.A.
(MAP GRID of AUSTRALIA)
(APPROXIMATE TRUE NORTH)

8
D.P. 564939

6
D.P. 564939

BRICK SPORTS CLUBROOM
CONCRETE TERRACE (STORAGE UNDER)
CONCRETE
TAP
GRATE
DRAINAGE PIT GRATE 70.12
DRAINAGE PIT GRATE 70.94 INVERT 70.27
DRAINAGE PIT GRATE 71.59 INVERT 70.84
DRAINAGE PIT GRATE 72.18 INVERT 71.54
OUTLET 70.60
INLET 70.61
OUTLET 71.00
OUTLET 71.50
OUTLET 71.72
0.100ø PIPE
0.125ø PIPE
LIGHT POLE
BOTTOM
TOP
BATTER
OF
EDGE
TREE
LINE
PATH
BITUMEN
SPORTING FIELD "NORMAN GRIFFITHS OVAL"

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SCALE 1:200

PLAN SHOWING BOUNDARIES, RELATIVE HEIGHTS & PHYSICAL FEATURES OVER LOT 6 IN D.P. 564939 KNOWN AS No. 2 LOFBERG ROAD, WEST PYMBLE "NORMAN GRIFFITHS OVAL".

L.G.A.: KU-RING-GAI

CLIENT	KU-RING-GAI COUNCIL			REF No.	19374
PROPERTY	No. 2 LOFBERG ROAD, WEST PYMBLE "NORMAN GRIFFITHS OVAL"				
DATUM	A.H.D.	SCALE	1:200 @ A1	DATE	12/03/2015
SURVEYED	J.G.	DRAWN	H.H.	DWG No.	19374
SHEET No.	2 of 3	REV No.	00		

SPORTING FIELD "NORMAN GRIFFITHS OVAL"

6

D.P. 564939

'PYMBLE BOWLING CLUB'

TO BICENTENNIAL PARK AND AQUATIC CENTRE

(C)

(C) RIGHT OF CARRIAGEWAY 7 WIDE (VIDE D.P. 1086376)

BENCH MARK
CUT ON CONCRETE
RL. 70.41 A.H.D

BENCH MARK
CUT ON HEADWALL
RL. 73.27 A.H.D

CONCRETE HEADWALL

DRAINAGE PIT
GRATE 72.02
INVERT 70.10

DRAINAGE PIT
GRATE 70.31
APPROX INVERT 66.0

INLET INVERT
NOT SURVEYED

1.050ø PIPE

SEWER ACCESS CHAMBER

SEWER ACCESS CHAMBER
(NOT LOCATED)

BRICK BUILDING
FL. 70.82

OUTLET 70.48

INLET 70.63

PIPE

BITUMEN

BATTER

TOP

BOTTOM

OF

TREE

LINE

LIGHT POLE

TAP

PATH

72

M.G.A.
(MAP GRID of AUSTRALIA)
(APPROXIMATE TRUE NORTH)

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SCALE 1:200

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PLAN SHOWING BOUNDARIES, RELATIVE HEIGHTS & PHYSICAL FEATURES OVER LOT 6 IN D.P. 564939 KNOWN AS No. 2 LOFBERG ROAD, WEST PYMBLE "NORMAN GRIFFITHS OVAL".

L.G.A.: KU-RING-GAI

Bee & Lethbridge Pty Ltd
Suite 2, 14 Starkey Street,
PO Box. 330, Forestville, NSW 2087
Phone: 9451 6757 Fax: 9975 3535
Email: survey@beeleth.com.au
ABN: 13 003 194 447
www.beeleth.com.au

Bee & Lethbridge
Quality Surveying & Development Solutions

CLIENT	KU-RING-GAI COUNCIL			REF No. 19374
PROPERTY	No. 2 LOFBERG ROAD, WEST PYMBLE "NORMAN GRIFFITHS OVAL"			
DATUM	A.H.D.	SCALE 1:200 @ A1	DATE 12/03/2015	SHEET No. 3 of 3
SURVEYED	J.G.	DRAWN H.H.	DWG No. 19374	REV No. 00

LOGS

TEST PIT NUMBER TP01

SLR Consulting Pty Ltd

CLIENT Ku-ring-gai Council **PROJECT NAME** Norman Griffiths Sportsground, Pymble

PROJECT NUMBER 610.17191.00000 **PROJECT LOCATION**

DATE STARTED 6/6/17 **COMPLETED** 6/6/17 **R.L. SURFACE** **DATUM**

EXCAVATION CONTRACTOR Ken Coles Excavations

EQUIPMENT 3T EX **TEST PIT LOCATION**

TEST PIT SIZE **LOGGED BY** CAC **CHECKED BY**

NOTES

Method	Water	Depth (m)	Graphic Log	Classification Symbol	Material Description	Sample ID Remarks	PID (ppm)	Additional Observations
EX					**TOPSOIL:** SAND, fine to medium, brown, moist, loose, with silt.	TP01 0.0m - 0.2m, PID = 0.0ppm		Nil odour or staining.
					TP01 terminated at 0.2m bgl.			Bucket refusal sandstone bedrock.
		0.5						
		1.0						

TEST PIT NUMBER TP02

SLR Consulting Pty Ltd

CLIENT Ku-ring-gai Council **PROJECT NAME** Norman Griffiths Sportsground, Pymble

PROJECT NUMBER 610.17191.00000 **PROJECT LOCATION**

DATE STARTED 6/6/17 **COMPLETED** 6/6/17 **R.L. SURFACE** **DATUM**

EXCAVATION CONTRACTOR Ken Coles Excavations

EQUIPMENT 3T EX **TEST PIT LOCATION**

TEST PIT SIZE **LOGGED BY** CAC **CHECKED BY**

NOTES

Method	Water	Depth (m)	Graphic Log	Classification Symbol	Material Description	Sample ID Remarks	PID (ppm)	Additional Observations
EX					**TOPSOIL:** SAND, find to medium, brown, moist, dense.			Nil odour or staining.
					FILL: Sandy CLAY, brown, white and red, sandstone gravels.	TP02 0.2m - 0.4m, PID = 0.1ppm		Nil odour or staining. Asphalt gravels.
		0.5				TP02 0.6m - 0.8m, PID = 0.1ppm		Nil odour or staining. DUP02 + DUP02A
					CLAY: brown, stiff, moist, grey mottles.	TP02 0.8m , 1.0m, PID = 0.0ppm		Nil odour or staining.
		1.0						
					TP02 terminated at 1.3m bgl.			Target depth.
		1.5						
		2.0						

TEST PIT NUMBER TP03

SLR Consulting Pty Ltd

CLIENT Ku-ring-gai Council **PROJECT NAME** Norman Griffiths Sportsground, Pymble

PROJECT NUMBER 610.17191.00000 **PROJECT LOCATION**

DATE STARTED 6/6/17 **COMPLETED** 6/6/17 **R.L. SURFACE** **DATUM**

EXCAVATION CONTRACTOR Ken Coles Excavations

EQUIPMENT 3T EX **TEST PIT LOCATION**

TEST PIT SIZE **LOGGED BY** CAC **CHECKED BY**

NOTES

Method	Water	Depth (m)	Graphic Log	Classification Symbol	Material Description	Sample ID Remarks	PID (ppm)	Additional Observations
EX					**FILL:** TOPSOIL, SAND, fine to medium, brown, dry.	TP03 0.0m - 0.1m, PID = 0.3ppm		Nil odour or staining. DUP01 +DUP01A
					Clayey SAND: fine to medium, orange, moist, dense.	TP03 0.1m - 0.3m, PID = 0.0ppm		
		0.5			TP03 terminated at 0.4m bgl.			Target depth.
		1.0						

TEST PIT NUMBER TP04

SLR Consulting Pty Ltd

CLIENT Ku-ring-gai Council **PROJECT NAME** Norman Griffiths Sportsground, Pymble

PROJECT NUMBER 610.17191.00000 **PROJECT LOCATION**

DATE STARTED 6/6/17 **COMPLETED** 6/6/17 **R.L. SURFACE** **DATUM**

EXCAVATION CONTRACTOR Ken Coles Excavations

EQUIPMENT 3T EX **TEST PIT LOCATION**

TEST PIT SIZE **LOGGED BY** CAC **CHECKED BY**

NOTES

Method	Water	Depth (m)	Graphic Log	Classification Symbol	Material Description	Sample ID Remarks	PID (ppm)	Additional Observations
EX		0.0			**FILL:** TOPSOIL, SAND, brown, fine to medium.			
					FILL: Gravelly clayey SAND, fine to medium, dense, sandstone cobbles/gravels, some bitumen cobbles/gravels, trace brick cobble.	TP04 0.1m - 0.3m, PID = 0.1ppm		Nil odour or staining.
		0.5			**Sandy CLAY:** orange, moist, firm.	TP04 0.6m - 0.8m, PID = 0.0ppm		Nil odour or staining.
		1.0						
		1.5						
					TP04 terminated at 1.7m bgl.			Target depth.
		2.0						

TEST PIT NUMBER TP05

SLR Consulting Pty Ltd

CLIENT Ku-ring-gai Council **PROJECT NAME** Norman Griffiths Sportsground, Pymble

PROJECT NUMBER 610.17191.00000 **PROJECT LOCATION**

DATE STARTED 6/6/17 **COMPLETED** 6/6/17 **R.L. SURFACE** **DATUM**

EXCAVATION CONTRACTOR Ken Coles Excavations

EQUIPMENT 3T EX **TEST PIT LOCATION**

TEST PIT SIZE **LOGGED BY** CAC **CHECKED BY**

NOTES

Method	Water	Depth (m)	Graphic Log	Classification Symbol	Material Description	Sample ID Remarks	PID (ppm)	Additional Observations
EX					**TOPSOIL:** SAND, fine to medium, brown, dry/loose.			Nil odour or staining.
					FILL: Sandy CLAY, brown, firm, moist, sandstone gravels/cobbles.			Nil odour or staining.
		0.5				TP05 0.3m - 0.5m, PID = 0.6ppm		Asphalt cobbles and boulders @ 0.4m.
		1.0						
						TP05 1.1m - 1.3m, PID = 0.3ppm		Nil odour or staining.
		1.5			TP05 terminated at 1.5m bgl.			Bucket refusal log @ 1.0m east end of testpit. Log @ 1.3m west end of testpit.
		2.0						

TEST PIT NUMBER TP06

SLR Consulting Pty Ltd

CLIENT Ku-ring-gai Council **PROJECT NAME** Norman Griffiths Sportsground, Pymble

PROJECT NUMBER 610.17191.00000 **PROJECT LOCATION**

DATE STARTED 6/6/17 **COMPLETED** 6/6/17 **R.L. SURFACE** **DATUM**

EXCAVATION CONTRACTOR Ken Coles Excavations

EQUIPMENT 3T EX **TEST PIT LOCATION**

TEST PIT SIZE **LOGGED BY** CAC **CHECKED BY**

NOTES

Method	Water	Depth (m)	Graphic Log	Classification Symbol	Material Description	Sample ID Remarks	PID (ppm)	Additional Observations
EX					**TOPSOIL:** SAND, brown, fine to medium, loose moist with silt.	TP06 0.0m - 0.2m, PID = 0.0ppm		Nil odour or staining.
					SANDSTONE: weathered, fine to medium, white/orange/red.	TP06 0.2m - 0.4m, PID = 0.4ppm		Nil odour or staining.
		0.5			TP06 terminated at 0.4m bgl.			Target depth. Bucket refusal on sandstone bedrock.
		1.0						

TEST PIT NUMBER TP07

SLR Consulting Pty Ltd

CLIENT Ku-ring-gai Council **PROJECT NAME** Norman Griffiths Sportsground, Pymble

PROJECT NUMBER 610.17191.00000 **PROJECT LOCATION**

DATE STARTED 6/6/17 **COMPLETED** 6/6/17 **R.L. SURFACE** **DATUM**

EXCAVATION CONTRACTOR Ken Coles Excavations

EQUIPMENT 3T EX **TEST PIT LOCATION**

TEST PIT SIZE **LOGGED BY** CAC **CHECKED BY**

NOTES

Method	Water	Depth (m)	Graphic Log	Classification Symbol	Material Description	Sample ID Remarks	PID (ppm)	Additional Observations
EX					**TOPSOIL:** SAND, fine to medium, brown, moist, loose, with silt.	TP07 0.0m - 0.1m, PID = 0.0ppm		Nil odour or staining.
					SANDSTONE: weathered, white, with clay, moist.	TP07 0.1m - 0.3m, PID = 0.0ppm		Nil odour or staining.
		0.5			TP07 terminated at 0.3m bgl.			Bucket refusual. Sandstone bedrock.
		1.0						

TEST PIT NUMBER TP08

SLR Consulting Pty Ltd

CLIENT Ku-ring-gai Council **PROJECT NAME** Norman Griffiths Sportsground, Pymble

PROJECT NUMBER 610.17191.00000 **PROJECT LOCATION**

DATE STARTED 6/6/17 **COMPLETED** 6/6/17 **R.L. SURFACE** **DATUM**

EXCAVATION CONTRACTOR Ken Coles Excavations

EQUIPMENT 3T EX **TEST PIT LOCATION**

TEST PIT SIZE **LOGGED BY** CAC **CHECKED BY**

NOTES

Method	Water	Depth (m)	Graphic Log	Classification Symbol	Material Description	Sample ID Remarks	PID (ppm)	Additional Observations
EX					**TOPSOIL:** SAND, fine to medium, brown, dry, loose.			
					FILL: Sandy CLAY, brown/orange, with sandstone cobbles/gravels, trace sandstone boulder.	TP08 0.15m - 0.35m, PID = 1.2ppm		Nil odour or staining.
		0.5			**CLAY:** brown/orange, moist, firm to stiff.	TP08 0.6m - 0.8m, PID = 0.3ppm		Nil odour or staining.
		1.0			TP08 terminated at 0.9m bgl.			Target depth.

TEST PIT NUMBER TP09

SLR Consulting Pty Ltd

CLIENT Ku-ring-gai Council **PROJECT NAME** Norman Griffiths Sportsground, Pymble

PROJECT NUMBER 610.17191.00000 **PROJECT LOCATION**

DATE STARTED 6/6/17 **COMPLETED** 6/6/17 **R.L. SURFACE** **DATUM**

EXCAVATION CONTRACTOR Ken Coles Excavations

EQUIPMENT 3T EX **TEST PIT LOCATION**

TEST PIT SIZE **LOGGED BY** CAC **CHECKED BY**

NOTES

Method	Water	Depth (m)	Graphic Log	Classification Symbol	Material Description	Sample ID Remarks	PID (ppm)	Additional Observations
EX								
					FILL: Gravelly sandy CLAY, brown, some sandstone gravels, some asphalt, gravels, trace igneous/asphalt cobbles.	TP09 0.2m - 0.4m, PID = 2.1ppm		Nil odour or staining.
		0.5			**Silty SAND:** fine to medium, brown/grey, moist.	TP09 0.7m - 0.9m, PID = 0.5ppm		Nil odour or staining.
		1.0			TP09 terminated at 1.3m bgl.			Target depth.
		1.5						
		2.0						

TEST PIT NUMBER TP10

SLR Consulting Pty Ltd

CLIENT Ku-ring-gai Council **PROJECT NAME** Norman Griffiths Sportsground, Pymble

PROJECT NUMBER 610.17191.00000 **PROJECT LOCATION**

DATE STARTED 6/6/17 **COMPLETED** 6/6/17 **R.L. SURFACE** **DATUM**

EXCAVATION CONTRACTOR Ken Coles Excavations

EQUIPMENT 3T EX **TEST PIT LOCATION**

TEST PIT SIZE **LOGGED BY** CAC **CHECKED BY**

NOTES

Method	Water	Depth (m)	Graphic Log	Classification Symbol	Material Description	Sample ID Remarks	PID (ppm)	Additional Observations
					TOPSOIL: SAND, fine to medium, brown.			
					FILL: Gravelly Clayey SAND, brown , moist, asphalt and sandstone gravels.	TP10 0.1m - 0.3m, PID = 0.7ppm		
		0.5						
						TP10 0.7m - 0.9m, PID = 0.9ppm		Metal pieces @ 0.8m
		1.0						
						TP10 1.3m - 1.5m, PID = 1.1ppm		
		1.5			TP10 terminated at 1.5m bgl.			Bucket refusal. Potential sandstone bedrock.
		2.0						

TEST PIT NUMBER TP11

SLR Consulting Pty Ltd

CLIENT Ku-ring-gai Council **PROJECT NAME** Norman Griffiths Sportsground, Pymble

PROJECT NUMBER 610.17191.00000 **PROJECT LOCATION**

DATE STARTED 6/6/17 **COMPLETED** 6/6/17 **R.L. SURFACE** **DATUM**

EXCAVATION CONTRACTOR Ken Coles Excavations

EQUIPMENT 3T EX **TEST PIT LOCATION**

TEST PIT SIZE **LOGGED BY** CAC **CHECKED BY**

NOTES

Method	Water	Depth (m)	Graphic Log	Classification Symbol	Material Description	Sample ID Remarks	PID (ppm)	Additional Observations
EX					**TOPSOIL:** SAND, fine to medium, brown, dry, loose.			Nil odour or staining.
		0.5			**FILL:** Sandy CLAY, brown/orange, moist, sandstone gravels, trace wood, some sandstone cobbles.	TP11 0.3m - 0.5m, PID = 0.8ppm		Nil odour or staining.
		1.0				TP11 1.0m - 1.2m, PID = 0.2ppm		Nil odour or staining.
		1.5			TP11 terminated at 1.5m bgl.			Bucket refusal, potential sandstone bedrock.
		2.0						

TEST PIT NUMBER TP12

SLR Consulting Pty Ltd

CLIENT Ku-ring-gai Council **PROJECT NAME** Norman Griffiths Sportsground, Pymble

PROJECT NUMBER 610.17191.00000 **PROJECT LOCATION**

DATE STARTED 6/6/17 **COMPLETED** 6/6/17 **R.L. SURFACE** **DATUM**

EXCAVATION CONTRACTOR Ken Coles Excavations

EQUIPMENT 3T EX **TEST PIT LOCATION**

TEST PIT SIZE **LOGGED BY** CAC **CHECKED BY**

NOTES

Method	Water	Depth (m)	Graphic Log	Classification Symbol	Material Description	Sample ID Remarks	PID (ppm)	Additional Observations
EX					**FILL:** TOPSOIL, SAND, brown and grey, fine to medium, moist, loose becoming dense.	TP12 0.0m - 0.2m, PID = 0.2ppm		Nil odour or staining.
		0.5			**SANDSTONE:** Highly weathered, orange, moist, some clay.	TP12 0.3m - 0.5m, PID = 0.0ppm		Nil odour or staining.
		1.0			TP12 terminated at 0.6m bgl.			Bucket refusal, sandstone bedrock.

TEST PIT NUMBER TP13

SLR Consulting Pty Ltd

CLIENT Ku-ring-gai Council **PROJECT NAME** Norman Griffiths Sportsground, Pymble

PROJECT NUMBER 610.17191.00000 **PROJECT LOCATION**

DATE STARTED 6/6/17 **COMPLETED** 6/6/17 **R.L. SURFACE** **DATUM**

EXCAVATION CONTRACTOR Ken Coles Excavations

EQUIPMENT 3T EX **TEST PIT LOCATION**

TEST PIT SIZE **LOGGED BY** CAC **CHECKED BY**

NOTES

Method	Water	Depth (m)	Graphic Log	Classification Symbol	Material Description	Sample ID Remarks	PID (ppm)	Additional Observations
EX		0.0			**FILL:** Clayey Gravelly SAND, brown, fine to medium, dry, some asphalt gravels and metal pieces.	TP13 0.0m - 0.2m, PID = 0.1ppm		Nil odour or staining.
		0.5			Becoming moist.	TP13 0.6m - 0.8m, PID = 0.6ppm		Nil odour or staining.
		1.0				TP13 1.1m - 1.3m, PID = 1.3ppm		Nil odour or staining. DUP03 + DUP03A
		1.3			TP13 terminated at 1.3m bgl.			Bucket refusal. Suspected sandstone bedrock.
		1.5						
		2.0						

TEST PIT NUMBER TP14

SLR Consulting Pty Ltd

CLIENT Ku-ring-gai Council **PROJECT NAME** Norman Griffiths Sportsground, Pymble

PROJECT NUMBER 610.17191.00000 **PROJECT LOCATION**

DATE STARTED 6/6/17 **COMPLETED** 6/6/17 **R.L. SURFACE** **DATUM**

EXCAVATION CONTRACTOR Ken Coles Excavations

EQUIPMENT 3T EX **TEST PIT LOCATION**

TEST PIT SIZE **LOGGED BY** CAC **CHECKED BY**

NOTES

Method	Water	Depth (m)	Graphic Log	Classification Symbol	Material Description	Sample ID Remarks	PID (ppm)	Additional Observations
EX					**FILL:** Gravelly clayey SAND, brown, fine to medium, dry, dense.	TP14 0.0m - 0.2m, PID = 1.9ppm		Nil odour or staining. Trace asphalt gravels and metal.
						TP14 0.3m - 0.5m, PID = 0.2ppm		Nil odour or staining.
		0.5			TP14 terminated at 0.5m bgl.			Bucket refusal. Suspected sandstone.
		1.0						

TEST PIT NUMBER TP15

SLR Consulting Pty Ltd

CLIENT Ku-ring-gai Council **PROJECT NAME** Norman Griffiths Sportsground, Pymble

PROJECT NUMBER 610.17191.00000 **PROJECT LOCATION**

DATE STARTED 6/6/17 **COMPLETED** 6/6/17 **R.L. SURFACE** **DATUM**

EXCAVATION CONTRACTOR Ken Coles Excavations

EQUIPMENT 3T EX **TEST PIT LOCATION**

TEST PIT SIZE **LOGGED BY** CAC **CHECKED BY**

NOTES

Method	Water	Depth (m)	Graphic Log	Classification Symbol	Material Description	Sample ID Remarks	PID (ppm)	Additional Observations
EX		0.5			**FILL:** Gravelly CLAY, brown, dry, hard, with sand, asphalt gravels, trace brick cobbles, trace plastic.	TP15 0.0m - 0.2m, PID = 0.0ppm		Nil odour or staining. Vertical metal pipe 600 x 60 Aluminium cans.
		1.0				TP15 0.6m - 0.8m, PID = 1.6ppm		Nil odour or staining. Asphalt boulders
		1.5				TP15 1.3m - 1.5m, PID = 1.5ppm		Nil odour or staining.
		2.0				TP15 2.0m - 2.2m, PID = 0.2ppm		Nil odour or staining.
		2.5			TP15 terminated at 2.2m bgl.			Depth beyond inferred base of mound, excavator limits.
		3.0						

TEST PIT NUMBER TP16

SLR Consulting Pty Ltd

CLIENT Ku-ring-gai Council **PROJECT NAME** Norman Griffiths Sportsground, Pymble

PROJECT NUMBER 610.17191.00000 **PROJECT LOCATION**

DATE STARTED 6/6/17 **COMPLETED** 6/6/17 **R.L. SURFACE** **DATUM**

EXCAVATION CONTRACTOR Ken Coles Excavations

EQUIPMENT 3T EX **TEST PIT LOCATION**

TEST PIT SIZE **LOGGED BY** CAC **CHECKED BY**

NOTES

Method	Water	Depth (m)	Graphic Log	Classification Symbol	Material Description	Sample ID Remarks	PID (ppm)	Additional Observations
EX		0.0			**FILL:** Silty SAND, brown, dry, loose, trace gravels.	TP16 0.1m - 0.3m, PID = 0.8ppm		Nil odour or staining.
		0.5			Becoming gravelly, clayey SAND, brown/orange, fine to medium, moist, asphalt gravels.			
		1.0				TP16 0.8m - 1.0m, PID = 2.0ppm		Nil odour or staining.
		1.5			Becoming more clayey.	TP16 1.4m - 1.6m, PID = 1.5ppm		Nil odour or staining.
		2.0			More clayey.	TP16 1.8m - 2.0m, PID = 0.0ppm		Nil odour or staining.
		2.5			TP16 terminated at 2m bgl.			Test pit beyond inferred base of mound, excavator bucket limit.
		3.0						

LABORATORY

ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

Contact	Craig Cowper
Client	SLR CONSULTING AUSTRALIA PTY LTD
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Email	ccowper@slrconsulting.com
Project	**610.17191.00001 Pymble**
Order Number	**22711**
Samples	41

LABORATORY DETAILS

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Laboratory	SGS Alexandria Environmental
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Telephone	+61 2 8594 0400
Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
SGS Reference	**SE166371 R0**
Date Received	7/6/2017
Date Reported	15/6/2017

COMMENTS

Accredited for compliance with ISO/IEC 17025- Testing. NATA accredited laboratory 2562(4354).

No respirable fibres detected in all soil samples using trace analysis technique.

Asbestos analysed by Approved Identifier Yusuf Kuthpudin .

SIGNATORIES

Akheeqar Beniameen
Chemist

Bennet Lo
Senior Organic Chemist/Metals Chemist

Dong Liang
Metals/Inorganics Team Leader

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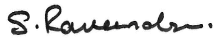
Senior Chemist

Ly Kim Ha
Organic Section Head



Ravee Sivasubramaniam
Hygiene Team Leader

VOC's in Soil [AN433] Tested: 9/6/2017

PARAMETER	UOM	LOR	TP02/0.9-0.8 SOIL - 6/6/2017 SE166371.003	TP04/0.1-0.3 SOIL - 6/6/2017 SE166371.006	TP05/1.1-1.3 SOIL - 6/6/2017 SE166371.008	TP08/0.15-0.35 SOIL - 6/6/2017 SE166371.012	TP09/0.2-0.4 SOIL - 6/6/2017 SE166371.013
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

PARAMETER	UOM	LOR	TP10/1.3-1.5 SOIL - 6/6/2017 SE166371.017	TP11/0.3-0.5 SOIL - 6/6/2017 SE166371.018	TP12/0.0-0.2 SOIL - 6/6/2017 SE166371.020	TP13/1.1-1.3 SOIL - 6/6/2017 SE166371.024	TP14/0.3-0.5 SOIL - 6/6/2017 SE166371.026
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

PARAMETER	UOM	LOR	TP15/2.0-2.2 SOIL - 6/6/2017 SE166371.030	TP16/1.8-2.0 SOIL - 6/6/2017 SE166371.034
Benzene	mg/kg	0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	<0.3
Total BTEX	mg/kg	0.6	<0.6	<0.6
Naphthalene	mg/kg	0.1	<0.1	<0.1

Volatile Petroleum Hydrocarbons in Soil [AN433] Tested: 9/6/2017

PARAMETER	UOM	LOR	TP02/0.9-0.8 SOIL - 6/6/2017 SE166371.003	TP04/0.1-0.3 SOIL - 6/6/2017 SE166371.006	TP05/1.1-1.3 SOIL - 6/6/2017 SE166371.008	TP08/0.15-0.35 SOIL - 6/6/2017 SE166371.012	TP09/0.2-0.4 SOIL - 6/6/2017 SE166371.013
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

PARAMETER	UOM	LOR	TP10/1.3-1.5 SOIL - 6/6/2017 SE166371.017	TP11/0.3-0.5 SOIL - 6/6/2017 SE166371.018	TP12/0.0-0.2 SOIL - 6/6/2017 SE166371.020	TP13/1.1-1.3 SOIL - 6/6/2017 SE166371.024	TP14/0.3-0.5 SOIL - 6/6/2017 SE166371.026
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

PARAMETER	UOM	LOR	TP15/2.0-2.2 SOIL - 6/6/2017 SE166371.030	TP16/1.8-2.0 SOIL - 6/6/2017 SE166371.034
TRH C6-C9	mg/kg	20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 8/6/2017

PARAMETER	UOM	LOR	TP02/0.9-0.8 SOIL - 6/6/2017 SE166371.003	TP04/0.1-0.3 SOIL - 6/6/2017 SE166371.006	TP05/1.1-1.3 SOIL - 6/6/2017 SE166371.008	TP08/0.15-0.35 SOIL - 6/6/2017 SE166371.012	TP09/0.2-0.4 SOIL - 6/6/2017 SE166371.013
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	**140**	**56**	<45	<45	<45
TRH C29-C36	mg/kg	45	**96**	<45	<45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16 (F2)	mg/kg	25	<25	<25	<25	<25	<25
TRH >C10-C16 (F2) - Naphthalene	mg/kg	25	<25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	**220**	<90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	**240**	<110	<110	<110	<110
TRH C10-C40 Total	mg/kg	210	**220**	<210	<210	<210	<210

PARAMETER	UOM	LOR	TP10/1.3-1.5 SOIL - 6/6/2017 SE166371.017	TP11/0.3-0.5 SOIL - 6/6/2017 SE166371.018	TP12/0.0-0.2 SOIL - 6/6/2017 SE166371.020	TP13/1.1-1.3 SOIL - 6/6/2017 SE166371.024	TP14/0.3-0.5 SOIL - 6/6/2017 SE166371.026
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	<45	**120**
TRH C29-C36	mg/kg	45	<45	<45	<45	<45	**110**
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16 (F2)	mg/kg	25	<25	<25	<25	<25	<25
TRH >C10-C16 (F2) - Naphthalene	mg/kg	25	<25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90	<90	**200**
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	<110	**220**
TRH C10-C40 Total	mg/kg	210	<210	<210	<210	<210	<210

PARAMETER	UOM	LOR	TP15/2.0-2.2 SOIL - 6/6/2017 SE166371.030	TP16/1.8-2.0 SOIL - 6/6/2017 SE166371.034
TRH C10-C14	mg/kg	20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45
TRH C29-C36	mg/kg	45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100
TRH >C10-C16 (F2)	mg/kg	25	<25	<25
TRH >C10-C16 (F2) - Naphthalene	mg/kg	25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110
TRH C10-C40 Total	mg/kg	210	<210	<210

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 8/6/2017

PARAMETER	UOM	LOR	TP01/0.0-0.2 SOIL - 6/6/2017 SE166371.001	TP02/0.2-0.4 SOIL - 6/6/2017 SE166371.002	TP03/0.0-0.1 SOIL - 6/6/2017 SE166371.005	TP04/0.1-0.3 SOIL - 6/6/2017 SE166371.006	TP05/0.3-0.5 SOIL - 6/6/2017 SE166371.007
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	0.1	0.2
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	0.2	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	1.8	0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	0.5	0.2
Fluoranthene	mg/kg	0.1	<0.1	0.2	<0.1	2.0	0.3
Pyrene	mg/kg	0.1	<0.1	0.2	<0.1	1.9	0.4
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	0.5	0.2
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	0.6	0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	0.1	<0.1	0.8	0.6
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	0.5	0.2
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	0.9	0.6
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	0.6	0.8
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	0.5	0.8
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ	0.2	<0.2	<0.2	<0.2	1.1	0.9
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	1.2	0.9
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	1.2	0.9
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8	11	4.5
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8	11	4.5

PARAMETER	UOM	LOR	TP06/0.0-0.2 SOIL - 6/6/2017 SE166371.009	TP07/0.0-0.1 SOIL - 6/6/2017 SE166371.011	TP08/0.15-0.35 SOIL - 6/6/2017 SE166371.012	TP09/0.2-0.4 SOIL - 6/6/2017 SE166371.013	TP10/0.7-0.9 SOIL - 6/6/2017 SE166371.016
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	0.2
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	0.4	0.3
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	0.2	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	0.8	0.6
Pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	0.7	0.6
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	0.3	0.3
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	0.3	0.3
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	0.5	0.5
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	0.3	0.3
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	0.6	0.6
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	0.6	0.7
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	0.5	0.7
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ	0.2	<0.2	<0.2	<0.2	0.8	0.8
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	0.9	0.9
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	0.8	0.8
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8	5.0	4.9
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8	5.0	4.9

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 8/6/2017 (continued)

PARAMETER	UOM	LOR	TP11/1.0-1.2 SOIL - 6/6/2017 SE166371.019	TP12/0.0-0.2 SOIL - 6/6/2017 SE166371.020	TP13/0.0-0.2 SOIL - 6/6/2017 SE166371.022	TP14/0.0-0.2 SOIL - 6/6/2017 SE166371.025	TP15/0.6-.8 SOIL - 6/6/2017 SE166371.028
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	0.3	0.3	0.2
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	1.0	0.7	0.4
Pyrene	mg/kg	0.1	<0.1	<0.1	1.0	0.7	0.4
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	0.6	0.4	0.2
Chrysene	mg/kg	0.1	<0.1	<0.1	0.5	0.3	0.2
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	0.8	0.4	0.3
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	0.5	0.3	0.2
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	0.8	0.4	0.3
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	0.6	0.3	0.2
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	0.7	0.4	0.3
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ	0.2	<0.2	<0.2	1.1	0.6	0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3	1.2	0.7	0.4
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2	1.1	0.6	0.4
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	7.0	4.1	2.4
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	7.0	4.1	2.4

PARAMETER	UOM	LOR	TP16/0.1-0.3 SOIL - 6/6/2017 SE166371.031	TP16/0.8-1.0 SOIL - 6/6/2017 SE166371.032	DUP01 SOIL - 6/6/2017 SE166371.035	DUP01A SOIL - 6/6/2017 SE166371.036
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	0.3	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	0.2	1.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	0.3	<0.1	<0.1
Fluoranthene	mg/kg	0.1	0.6	2.9	<0.1	<0.1
Pyrene	mg/kg	0.1	0.5	2.9	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	0.3	1.5	<0.1	<0.1
Chrysene	mg/kg	0.1	0.2	1.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	0.3	2.0	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	0.2	1.0	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	0.3	2.0	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	0.3	1.3	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	0.3	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	0.3	2.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ	0.2	0.4	2.9	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	0.5	2.9	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	0.5	2.9	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	3.2	19	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	3.2	19	<0.8	<0.8

OC Pesticides in Soil [AN420] Tested: 8/6/2017

PARAMETER	UOM	LOR	TP02/0.2-0.4 SOIL - 6/6/2017 SE166371.002	TP04/0.1-0.3 SOIL - 6/6/2017 SE166371.006	TP08/0.15-0.35 SOIL - 6/6/2017 SE166371.012	TP10/0.1-0.3 SOIL - 6/6/2017 SE166371.015	TP14/0.3-0.5 SOIL - 6/6/2017 SE166371.026
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

OC Pesticides in Soil [AN420] Tested: 8/6/2017 (continued)

PARAMETER	UOM	LOR	TP15/1.3-1.5 SOIL - 6/6/2017 SE166371.029
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1
Lindane	mg/kg	0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1
Aldrin	mg/kg	0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1
o,p'-DDE	mg/kg	0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1
Dieldrin	mg/kg	0.2	<0.2
Endrin	mg/kg	0.2	<0.2
o,p'-DDD	mg/kg	0.1	<0.1
o,p'-DDT	mg/kg	0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1
Isodrin	mg/kg	0.1	<0.1
Mirex	mg/kg	0.1	<0.1

PCBs in Soil [AN420] Tested: 8/6/2017

PARAMETER	UOM	LOR	TP02/0.9-0.8 SOIL - 6/6/2017 SE166371.003	TP05/0.3-0.5 SOIL - 6/6/2017 SE166371.007	TP09/0.2-0.4 SOIL - 6/6/2017 SE166371.013	TP13/0.6-0.8 SOIL - 6/6/2017 SE166371.023	TP15/0.0-0.2 SOIL - 6/6/2017 SE166371.027
Arochlor 1016	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1221	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1232	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1242	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1248	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1254	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1260	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1262	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1268	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PCBs (Arochlors)	mg/kg	1	<1	<1	<1	<1	<1

PARAMETER	UOM	LOR	TP16/1.4-1.6 SOIL - 6/6/2017 SE166371.033
Arochlor 1016	mg/kg	0.2	<0.2
Arochlor 1221	mg/kg	0.2	<0.2
Arochlor 1232	mg/kg	0.2	<0.2
Arochlor 1242	mg/kg	0.2	<0.2
Arochlor 1248	mg/kg	0.2	<0.2
Arochlor 1254	mg/kg	0.2	<0.2
Arochlor 1260	mg/kg	0.2	<0.2
Arochlor 1262	mg/kg	0.2	<0.2
Arochlor 1268	mg/kg	0.2	<0.2
Total PCBs (Arochlors)	mg/kg	1	<1

Total Recoverable Metals in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 13/6/2017

PARAMETER	UOM	LOR	TP01/0.0-0.2 SOIL - 6/6/2017 SE166371.001	TP02/0.9-0.8 SOIL - 6/6/2017 SE166371.003	TP02/0.8-1.0 SOIL - 6/6/2017 SE166371.004	TP03/0.0-0.1 SOIL - 6/6/2017 SE166371.005	TP04/0.1-0.3 SOIL - 6/6/2017 SE166371.006
Arsenic, As	mg/kg	3	<3	5	9	<3	<3
Cadmium, Cd	mg/kg	0.3	<0.3	0.3	0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.3	6.1	19	21	6.3	8.4
Copper, Cu	mg/kg	0.5	4.8	15	4.5	5.8	4.0
Lead, Pb	mg/kg	1	12	31	20	9	15
Nickel, Ni	mg/kg	0.5	4.2	9.3	4.4	3.0	1.7
Zinc, Zn	mg/kg	0.5	18	61	19	20	12

PARAMETER	UOM	LOR	TP05/0.3-0.5 SOIL - 6/6/2017 SE166371.007	TP06/0.0-0.2 SOIL - 6/6/2017 SE166371.009	TP06/0.2-0.4 SOIL - 6/6/2017 SE166371.010	TP07/0.0-0.1 SOIL - 6/6/2017 SE166371.011	TP08/0.15-0.35 SOIL - 6/6/2017 SE166371.012
Arsenic, As	mg/kg	3	5	<3	<3	<3	4
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.3	14	6.1	1.6	7.3	15
Copper, Cu	mg/kg	0.5	34	6.3	1.1	17	4.5
Lead, Pb	mg/kg	1	14	12	5	12	11
Nickel, Ni	mg/kg	0.5	5.9	4.8	<0.5	6.8	2.6
Zinc, Zn	mg/kg	0.5	27	25	1.4	43	7.3

PARAMETER	UOM	LOR	TP09/0.2-0.4 SOIL - 6/6/2017 SE166371.013	TP10/0.7-0.9 SOIL - 6/6/2017 SE166371.014	TP10/0.1-0.3 SOIL - 6/6/2017 SE166371.015	TP10/1.3-1.5 SOIL - 6/6/2017 SE166371.017	TP11/0.3-0.5 SOIL - 6/6/2017 SE166371.018
Arsenic, As	mg/kg	3	5	<3	4	4	4
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.3	16	7.2	13	18	11
Copper, Cu	mg/kg	0.5	6.9	1.2	9.5	26	5.9
Lead, Pb	mg/kg	1	15	7	19	24	12
Nickel, Ni	mg/kg	0.5	2.9	0.8	6.6	27	2.0
Zinc, Zn	mg/kg	0.5	10	4.4	21	39	13

PARAMETER	UOM	LOR	TP12/0.0-0.2 SOIL - 6/6/2017 SE166371.020	TP12/0.3-0.5 SOIL - 6/6/2017 SE166371.021	TP13/0.6-0.8 SOIL - 6/6/2017 SE166371.023	TP13/1.1-1.3 SOIL - 6/6/2017 SE166371.024	TP14/0.3-0.5 SOIL - 6/6/2017 SE166371.026
Arsenic, As	mg/kg	3	3	4	4	<3	4
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.3	7.3	15	26	7.2	15
Copper, Cu	mg/kg	0.5	8.9	2.7	20	6.5	13
Lead, Pb	mg/kg	1	15	9	41	14	27
Nickel, Ni	mg/kg	0.5	7.4	1.3	29	4.7	17
Zinc, Zn	mg/kg	0.5	24	3.4	59	54	32

Total Recoverable Metals in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 13/6/2017 (continued)

PARAMETER	UOM	LOR	TP15/0.0-0.2 SOIL - 6/6/2017 SE166371.027	TP15/1.3-1.5 SOIL - 6/6/2017 SE166371.029	TP16/0.8-1.0 SOIL - 6/6/2017 SE166371.032	TP16/1.4-1.6 SOIL - 6/6/2017 SE166371.033	DUP02 SOIL - 6/6/2017 SE166371.037
Arsenic, As	mg/kg	3	5	5	5	5	6
Cadmium, Cd	mg/kg	0.3	<0.3	0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.3	11	29	28	13	21
Copper, Cu	mg/kg	0.5	10	20	18	5.9	9.1
Lead, Pb	mg/kg	1	25	39	46	18	25
Nickel, Ni	mg/kg	0.5	6.9	21	30	4.7	5.1
Zinc, Zn	mg/kg	0.5	50	49	48	22	35

PARAMETER	UOM	LOR	DUP02A SOIL - 6/6/2017 SE166371.038	DUP03 SOIL - 6/6/2017 SE166371.039	DUP03A SOIL - 6/6/2017 SE166371.040
Arsenic, As	mg/kg	3	7	3	<3
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.3	17	8.3	7.9
Copper, Cu	mg/kg	0.5	13	8.4	5.9
Lead, Pb	mg/kg	1	27	17	18
Nickel, Ni	mg/kg	0.5	10	6.6	4.6
Zinc, Zn	mg/kg	0.5	50	20	15

Mercury in Soil [AN312] Tested: 13/6/2017

PARAMETER	UOM	LOR	TP01/0.0-0.2 SOIL - 6/6/2017 SE166371.001	TP02/0.9-0.8 SOIL - 6/6/2017 SE166371.003	TP02/0.8-1.0 SOIL - 6/6/2017 SE166371.004	TP03/0.0-0.1 SOIL - 6/6/2017 SE166371.005	TP04/0.1-0.3 SOIL - 6/6/2017 SE166371.006
Mercury	mg/kg	0.05	<0.05	**0.06**	**0.06**	<0.05	<0.05

PARAMETER	UOM	LOR	TP05/0.3-0.5 SOIL - 6/6/2017 SE166371.007	TP06/0.0-0.2 SOIL - 6/6/2017 SE166371.009	TP06/0.2-0.4 SOIL - 6/6/2017 SE166371.010	TP07/0.0-0.1 SOIL - 6/6/2017 SE166371.011	TP08/0.15-0.35 SOIL - 6/6/2017 SE166371.012
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	TP09/0.2-0.4 SOIL - 6/6/2017 SE166371.013	TP10/0.7-0.9 SOIL - 6/6/2017 SE166371.014	TP10/0.1-0.3 SOIL - 6/6/2017 SE166371.015	TP10/1.3-1.5 SOIL - 6/6/2017 SE166371.017	TP11/0.3-0.5 SOIL - 6/6/2017 SE166371.018
Mercury	mg/kg	0.05	<0.05	<0.05	**0.19**	<0.05	<0.05

PARAMETER	UOM	LOR	TP12/0.0-0.2 SOIL - 6/6/2017 SE166371.020	TP12/0.3-0.5 SOIL - 6/6/2017 SE166371.021	TP13/0.6-0.8 SOIL - 6/6/2017 SE166371.023	TP13/1.1-1.3 SOIL - 6/6/2017 SE166371.024	TP14/0.3-0.5 SOIL - 6/6/2017 SE166371.026
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	**0.09**

PARAMETER	UOM	LOR	TP15/0.0-0.2 SOIL - 6/6/2017 SE166371.027	TP15/1.3-1.5 SOIL - 6/6/2017 SE166371.029	TP16/0.8-1.0 SOIL - 6/6/2017 SE166371.032	TP16/1.4-1.6 SOIL - 6/6/2017 SE166371.033	DUP02 SOIL - 6/6/2017 SE166371.037
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	DUP02A SOIL - 6/6/2017 SE166371.038	DUP03 SOIL - 6/6/2017 SE166371.039	DUP03A SOIL - 6/6/2017 SE166371.040
Mercury	mg/kg	0.05	**0.06**	<0.05	<0.05

Moisture Content [AN002] Tested: 10/6/2017

PARAMETER	UOM	LOR	TP01/0.0-0.2 SOIL - 6/6/2017 SE166371.001	TP02/0.2-0.4 SOIL - 6/6/2017 SE166371.002	TP02/0.9-0.8 SOIL - 6/6/2017 SE166371.003	TP02/0.8-1.0 SOIL - 6/6/2017 SE166371.004	TP03/0.0-0.1 SOIL - 6/6/2017 SE166371.005
% Moisture	%w/w	0.5	19	16	19	20	9.6

PARAMETER	UOM	LOR	TP04/0.1-0.3 SOIL - 6/6/2017 SE166371.006	TP05/0.3-0.5 SOIL - 6/6/2017 SE166371.007	TP05/1.1-1.3 SOIL - 6/6/2017 SE166371.008	TP06/0.0-0.2 SOIL - 6/6/2017 SE166371.009	TP06/0.2-0.4 SOIL - 6/6/2017 SE166371.010
% Moisture	%w/w	0.5	11	16	23	14	7.5

PARAMETER	UOM	LOR	TP07/0.0-0.1 SOIL - 6/6/2017 SE166371.011	TP08/0.15-0.35 SOIL - 6/6/2017 SE166371.012	TP09/0.2-0.4 SOIL - 6/6/2017 SE166371.013	TP10/0.7-0.9 SOIL - 6/6/2017 SE166371.014	TP10/0.1-0.3 SOIL - 6/6/2017 SE166371.015
% Moisture	%w/w	0.5	9.6	14	14	14	10

PARAMETER	UOM	LOR	TP10/0.7-0.9 SOIL - 6/6/2017 SE166371.016	TP10/1.3-1.5 SOIL - 6/6/2017 SE166371.017	TP11/0.3-0.5 SOIL - 6/6/2017 SE166371.018	TP11/1.0-1.2 SOIL - 6/6/2017 SE166371.019	TP12/0.0-0.2 SOIL - 6/6/2017 SE166371.020
% Moisture	%w/w	0.5	13	14	13	13	11

PARAMETER	UOM	LOR	TP12/0.3-0.5 SOIL - 6/6/2017 SE166371.021	TP13/0.0-0.2 SOIL - 6/6/2017 SE166371.022	TP13/0.6-0.8 SOIL - 6/6/2017 SE166371.023	TP13/1.1-1.3 SOIL - 6/6/2017 SE166371.024	TP14/0.0-0.2 SOIL - 6/6/2017 SE166371.025
% Moisture	%w/w	0.5	15	7.8	13	9.2	8.1

PARAMETER	UOM	LOR	TP14/0.3-0.5 SOIL - 6/6/2017 SE166371.026	TP15/0.0-0.2 SOIL - 6/6/2017 SE166371.027	TP15/0.6-.8 SOIL - 6/6/2017 SE166371.028	TP15/1.3-1.5 SOIL - 6/6/2017 SE166371.029	TP15/2.0-2.2 SOIL - 6/6/2017 SE166371.030
% Moisture	%w/w	0.5	8.9	10	11	8.2	12

PARAMETER	UOM	LOR	TP16/0.1-0.3 SOIL - 6/6/2017 SE166371.031	TP16/0.8-1.0 SOIL - 6/6/2017 SE166371.032	TP16/1.4-1.6 SOIL - 6/6/2017 SE166371.033	TP16/1.8-2.0 SOIL - 6/6/2017 SE166371.034	DUP01 SOIL - 6/6/2017 SE166371.035
% Moisture	%w/w	0.5	6.0	12	13	13	7.3

Moisture Content [AN002] Tested: 10/6/2017 (continued)

PARAMETER	UOM	LOR	DUP01A SOIL - 6/6/2017 SE166371.036	DUP02 SOIL - 6/6/2017 SE166371.037	DUP02A SOIL - 6/6/2017 SE166371.038	DUP03 SOIL - 6/6/2017 SE166371.039	DUP03A SOIL - 6/6/2017 SE166371.040
% Moisture	%w/w	0.5	8.0	18	16	7.8	8.3

Fibre Identification in soil [AN602] Tested: 14/6/2017

PARAMETER	UOM	LOR	TP02/0.2-0.4 SOIL - 6/6/2017 SE166371.002	TP04/0.1-0.3 SOIL - 6/6/2017 SE166371.006	TP05/0.3-0.5 SOIL - 6/6/2017 SE166371.007	TP05/1.1-1.3 SOIL - 6/6/2017 SE166371.008	TP08/0.15-0.35 SOIL - 6/6/2017 SE166371.012
Asbestos Detected	No unit	-	No	No	No	No	No

PARAMETER	UOM	LOR	TP09/0.2-0.4 SOIL - 6/6/2017 SE166371.013	TP10/0.7-0.9 SOIL - 6/6/2017 SE166371.016	TP11/0.3-0.5 SOIL - 6/6/2017 SE166371.018	TP13/0.0-0.2 SOIL - 6/6/2017 SE166371.022	TP14/0.0-0.2 SOIL - 6/6/2017 SE166371.025
Asbestos Detected	No unit	-	No	No	No	No	No

PARAMETER	UOM	LOR	TP15/0.0-0.2 SOIL - 6/6/2017 SE166371.027	TP15/1.3-1.5 SOIL - 6/6/2017 SE166371.029	TP16/0.1-0.3 SOIL - 6/6/2017 SE166371.031	TP16/0.8-1.0 SOIL - 6/6/2017 SE166371.032
Asbestos Detected	No unit	-	No	No	No	No

VOCs in Water [AN433] Tested: 10/6/2017

PARAMETER	UOM	LOR	TRIP SPIKE WATER - 6/6/2017 SE166371.041
Benzene	µg/L	0.5	[71%]
Toluene	µg/L	0.5	[78%]
Ethylbenzene	µg/L	0.5	[74%]
m/p-xylene	µg/L	1	[74%]
o-xylene	µg/L	0.5	[76%]
Naphthalene	µg/L	0.5	-
Total Xylenes	µg/L	1.5	-
Total BTEX	µg/L	3	-

METHOD	METHODOLOGY SUMMARY
AN002	The test is carried out by drying (at either 40°C or 105°C) a known mass of sample in a weighed evaporating basin. After fully dry the sample is re-weighed. Samples such as sludge and sediment having high percentages of moisture will take some time in a drying oven for complete removal of water.
AN040/AN320	A portion of sample is digested with nitric acid to decompose organic matter and hydrochloric acid to complete the digestion of metals. The digest is then analysed by ICP OES with metals results reported on the dried sample basis. Based on USEPA method 200.8 and 6010C.
AN040	A portion of sample is digested with Nitric acid to decompose organic matter and Hydrochloric acid to complete the digestion of metals and then filtered for analysis by ASS or ICP as per USEPA Method 200.8.
AN312	Mercury by Cold Vapour AAS in Soils: After digestion with nitric acid, hydrogen peroxide and hydrochloric acid , mercury ions are reduced by stannous chloride reagent in acidic solution to elemental mercury. This mercury vapour is purged by nitrogen into a cold cell in an atomic absorption spectrometer or mercury analyser . Quantification is made by comparing absorbances to those of the calibration standards. Reference APHA 3112/3500
AN403	Total Recoverable Hydrocarbons: Determination of Hydrocarbons by gas chromatography after a solvent extraction. Detection is by flame ionisation detector (FID) that produces an electronic signal in proportion to the combustible matter passing through it. Total Recoverable Hydrocarbons (TRH) are routinely reported as four alkane groupings based on the carbon chain length of the compounds: C6-C9, C10-C14, C15-C28 and C29-C36 and in recognition of the NEPM 1999 (2013), >C10-C16 (F2), >C16-C34 (F3) and >C34-C40 (F4). F2 is reported directly and also corrected by subtracting Naphthalene (from VOC method AN433) where available.
AN403	Additionally, the volatile C6-C9 fraction may be determined by a purge and trap technique and GC /MS because of the potential for volatiles loss. Total Petroleum Hydrocarbons (TPH) follows the same method of analysis after silica gel cleanup of the solvent extract. Aliphatic/Aromatic Speciation follows the same method of analysis after fractionation of the solvent extract over silica with differential polarity of the eluent solvents .
AN403	The GC/FID method is not well suited to the analysis of refined high boiling point materials (ie lubricating oils or greases) but is particularly suited for measuring diesel, kerosene and petrol if care to control volatility is taken. This method will detect naturally occurring hydrocarbons, lipids, animal fats, phenols and PAHs if they are present at sufficient levels, dependent on the use of specific cleanup /fractionation techniques. Reference USEPA 3510B, 8015B.
AN420	(SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols (etc) in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D).
AN420	SVOC Compounds: Semi-Volatile Organic Compounds (SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols in soils, sediments and waters are determined by GCMS /ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D).
AN433	VOCs and C6-C9 Hydrocarbons by GC-MS P&T: VOC`s are volatile organic compounds. The sample is presented to a gas chromatograph via a purge and trap (P&T) concentrator and autosampler and is detected with a Mass Spectrometer (MSD). Solid samples are initially extracted with methanol whilst liquid samples are processed directly. References: USEPA 5030B, 8020A, 8260.
AN602	Qualitative identification of chrysotile, amosite and crocidolite in bulk samples by polarised light microscopy (PLM) in conjunction with dispersion staining (DS). AS4964 provides the basis for this document. Unequivocal identification of the asbestos minerals present is made by obtaining sufficient diagnostic `clues`, which provide a reasonable degree of certainty, dispersion staining is a mandatory `clue` for positive identification. If sufficient `clues` are absent, then positive identification of asbestos is not possible. This procedure requires removal of suspect fibres/bundles from the sample which cannot be returned.
AN602	Fibres/material that cannot be unequivocably identified as one of the three asbestos forms, will be reported as unknown mineral fibres (umf).
AN602	AS4964.2004 Method for the Qualitative Identification of Asbestos in Bulk Samples, Section 8.4, Trace Analysis Criteria, Note 4 states:"Depending upon sample condition and fibre type, the detection limit of this technique has been found to lie generally in the range of 1 in 1,000 to 1 in 10,000 parts by weight, equivalent to 1 to 0.1 g/kg."
AN602	The sample can be reported “no asbestos found at the reporting limit of 0.1 g/kg” (<0.01%w/w) where AN602 section 4.5 of this method has been followed, and if- (a) no trace asbestos fibres have been detected (i.e. no ‘respirable’ fibres): (b) the estimated weight of non-respirable asbestos fibre bundles and/or the estimated weight of asbestos in asbestos-containing materials are found to be less than 0.1g/kg: and (c) these non-respirable asbestos fibre bundles and/or the asbestos containing materials are only visible under stereo-microscope viewing conditions.

FOOTNOTES

*	NATA accreditation does not cover the performance of this service.	-	Not analysed.	UOM	Unit of Measure.
		NVL	Not validated.	LOR	Limit of Reporting.
**	Indicative data, theoretical holding time exceeded.	IS	Insufficient sample for analysis.	↑↓	Raised/lowered Limit of Reporting.
		LNR	Sample listed, but not received.		

Samples analysed as received.
Solid samples expressed on a dry weight basis.

Where "Total" analyte groups are reported (for example, Total PAHs, Total OC Pesticides) the total will be calculated as the sum of the individual analytes, with those analytes that are reported as <LOR being assumed to be zero. The summed (Total) limit of reporting is calculated by summing the individual analyte LORs and dividing by two. For example, where 16 individual analytes are being summed and each has an LOR of 0.1 mg/kg, the "Totals" LOR will be 1.6 / 2 (0.8 mg/kg). Where only 2 analytes are being summed, the " Total" LOR will be the sum of those two LORs.

Some totals may not appear to add up because the total is rounded after adding up the raw values.

If reported, measurement uncertainty follow the ± sign after the analytical result and is expressed as the expanded uncertainty calculated using a coverage factor of 2, providing a level of confidence of approximately 95%, unless stated otherwise in the comments section of this report.

Results reported for samples tested under test methods with codes starting with ARS-SOP, radionuclide or gross radioactivity concentrations are expressed in becquerel (Bq) per unit of mass or volume or per wipe as stated on the report. Becquerel is the SI unit for activity and equals one nuclear transformation per second.
Note that in terms of units of radioactivity:

a. 1 Bq is equivalent to 27 pCi
b. 37 MBq is equivalent to 1 mCi

For results reported for samples tested under test methods with codes starting with ARS-SOP, less than (<) values indicate the detection limit for each radionuclide or parameter for the measurement system used. The respective detection limits have been calculated in accordance with ISO 11929.

The QC criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here : http://www.sgs.com.au/~/media/Local/Australia/Documents/Technical%20Documents/MP-AU-ENV-QU-022%20QA%20QC%20Plan.pdf

ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

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Project	**610.17191.00001 Pymble**
Order Number	**22711**
Samples	14

LABORATORY DETAILS

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SGS Reference	**SE166371 R0**
Date Received	07 Jun 2017
Date Reported	15 Jun 2017

COMMENTS

Accredited for compliance with ISO/IEC 17025-Testing. NATA accredited laboratory 2562(4354).

No respirable fibres detected in all soil samples using trace analysis technique.

Asbestos analysed by Approved Identifier Yusuf Kuthpudin.

SIGNATORIES

Akheeqar Beniameen
Chemist

Bennet Lo
Senior Organic Chemist/Metals Chemis

Dong Liang
Metals/Inorganics Team Leader

Kamrul Ahsan
Senior Chemist

Ly Kim Ha
Organic Section Head

Ravee Sivasubramaniam
Hygiene Team Leader

RESULTS

Fibre Identification in soil — Method AN602

Laboratory Reference	Client Reference	Matrix	Sample Description	Date Sampled	Fibre Identification
SE166371.002	TP02/0.2-0.4	Soil	104g clay,sand,rocks	06 Jun 2017	No Asbestos Found Organic Fibres Detected
SE166371.006	TP04/0.1-0.3	Soil	72g sand,soil,rocks	06 Jun 2017	No Asbestos Found
SE166371.007	TP05/0.3-0.5	Soil	79g sand,soil,rocks, bitumen	06 Jun 2017	No Asbestos Found
SE166371.008	TP05/1.1-1.3	Soil	67g clay,rocks	06 Jun 2017	No Asbestos Found
SE166371.012	TP08/0.15-0.35	Soil	68g sand,soil,rocks	06 Jun 2017	No Asbestos Found
SE166371.013	TP09/0.2-0.4	Soil	75g clay,sand,rocks	06 Jun 2017	No Asbestos Found
SE166371.016	TP10/0.7-0.9	Soil	75g clay,sand,soil,rocks	06 Jun 2017	No Asbestos Found
SE166371.018	TP11/0.3-0.5	Soil	79g clay,sand,rocks	06 Jun 2017	No Asbestos Found
SE166371.022	TP13/0.0-0.2	Soil	61g sand,soil,rocks	06 Jun 2017	No Asbestos Found Organic Fibres Detected
SE166371.025	TP14/0.0-0.2	Soil	83g clay,sand,soil,rocks	06 Jun 2017	No Asbestos Found Organic Fibres Detected
SE166371.027	TP15/0.0-0.2	Soil	104g clay,sand,soil,rocks	06 Jun 2017	No Asbestos Found Organic Fibres Detected
SE166371.029	TP15/1.3-1.5	Soil	91g clay,sand,soil,rocks	06 Jun 2017	No Asbestos Found
SE166371.031	TP16/0.1-0.3	Soil	77g clay,sand,soil,rocks	06 Jun 2017	No Asbestos Found
SE166371.032	TP16/0.8-1.0	Soil	96g clay,sand,soil,rocks	06 Jun 2017	No Asbestos Found

METHOD SUMMARY

SE166371 R0

METHOD	METHODOLOGY SUMMARY
AN602	Qualitative identification of chrysotile, amosite and crocidolite in bulk samples by polarised light microscopy (PLM) in conjunction with dispersion staining (DS). AS4964 provides the basis for this document. Unequivocal identification of the asbestos minerals present is made by obtaining sufficient diagnostic `clues`, which provide a reasonable degree of certainty, dispersion staining is a mandatory `clue` for positive identification. If sufficient `clues` are absent, then positive identification of asbestos is not possible. This procedure requires removal of suspect fibres/bundles from the sample which cannot be returned.
AN602	Fibres/material that cannot be unequivocably identified as one of the three asbestos forms, will be reported as unknown mineral fibres (umf).
AN602	AS4964.2004 Method for the Qualitative Identification of Asbestos in Bulk Samples , Section 8.4, Trace Analysis Criteria, Note 4 states:"Depending upon sample condition and fibre type, the detection limit of this technique has been found to lie generally in the range of 1 in 1,000 to 1 in 10,000 parts by weight, equivalent to 1 to 0.1 g/kg."
AN602	The sample can be reported “no asbestos found at the reporting limit of 0.1 g/kg” (<0.01%w/w) where AN602 section 4.5 of this method has been followed, and if- (a) no trace asbestos fibres have been detected (i.e. no ‘respirable’ fibres): (b) the estimated weight of non-respirable asbestos fibre bundles and/or the estimated weight of asbestos in asbestos-containing materials are found to be less than 0.1g/kg: and (c) these non-respirable asbestos fibre bundles and/or the asbestos containing materials are only visible under stereo-microscope viewing conditions.

FOOTNOTES

Amosite	-	Brown Asbestos	NA	-	Not Analysed
Chrysotile	-	White Asbestos	LNR	-	Listed, Not Required
Crocidolite	-	Blue Asbestos	*	-	NATA accreditation does not cover the performance of this service .
Amphiboles	-	Amosite and/or Crocidolite	**	-	Indicative data, theoretical holding time exceeded.

(In reference to soil samples only) This report does not comply with the analytical reporting recommendations in the Western Australian Department of Health Guidelines for the Assessment and Remediation and Management of Asbestos Contaminated sites in Western Australia - May 2009.

Sampled by the client.

Where reported: 'Asbestos Detected': Asbestos detected by polarised light microscopy, including dispersion staining.
Where reported: 'No Asbestos Found': No Asbestos Found by polarised light microscopy, including dispersion staining.
Where reported: 'UMF Detected': Mineral fibres of unknown type detected by polarised light microscopy, including dispersion staining. Confirmation by another independent analytical technique may be necessary.

Even after disintegration it can be very difficult, or impossible, to detect the presence of asbestos in some asbestos -containing bulk materials using polarised light microscopy. This is due to the low grade or small length or diameter of asbestos fibres present in the material, or to the fact that very fine fibres have been distributed intimately throughout the materials.

The QC criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here : http://www.sgs.com.au/~/media/Local/Australia/Documents/Technical%20Documents/MP-AU-ENV-QU-022%20QA%20QC%20Plan.pdf

STATEMENT OF QA/QC PERFORMANCE

SE166371 R0

CLIENT DETAILS

Contact	Craig Cowper
Client	SLR CONSULTING AUSTRALIA PTY LTD
Address	Lego Building, 2 Lincoln Street (PO Box 176 NSW LANECOVE 1595) LANECOVE NSW 2066
Telephone	02 9427 8100
Facsimile	02 9427 8200
Email	ccowper@slrconsulting.com
Project	**610.17191.00001 Pymble**
Order Number	**22711**
Samples	41

LABORATORY DETAILS

Manager	Huong Crawford
Laboratory	SGS Alexandria Environmental
Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	+61 2 8594 0400
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Email	au.environmental.sydney@sgs.com
SGS Reference	**SE166371 R0**
Date Received	07 Jun 2017
Date Reported	15 Jun 2017

COMMENTS

All the laboratory data for each environmental matrix was compared to SGS' stated Data Quality Objectives (DQO). Comments arising from the comparison were made and are reported below.

The data relating to sampling was taken from the Chain of Custody document and was supplied by the Client.
This QA/QC Statement must be read in conjunction with the referenced Analytical Report.
The Statement and the Analytical Report must not be reproduced except in full.

All Data Quality Objectives were met with the exception of the following:

Duplicate	Total Recoverable Metals in Soil/Waste Solids/Materials by ICPOES	3 items
	TRH (Total Recoverable Hydrocarbons) in Soil	2 items
Matrix Spike	Total Recoverable Metals in Soil/Waste Solids/Materials by ICPOES	2 items

SAMPLE SUMMARY

Samples clearly labelled	Yes	Complete documentation received	Yes
Sample container provider	SGS	Sample cooling method	Ice Bricks
Samples received in correct containers	Yes	Sample counts by matrix	40 Soil, 1 Water
Date documentation received	7/6/2017	Type of documentation received	COC
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	9.4°C	Sufficient sample for analysis	Yes
Turnaround time requested	Standard		

HOLDING TIME SUMMARY

SE166371 R0

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS “Field Sampling Guide for Containers and Holding Time” (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

Fibre Identification in soil

Method: ME-(AU)-[ENV]AN602

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP02/0.2-0.4	SE166371.002	LB126050	06 Jun 2017	07 Jun 2017	06 Jun 2018	14 Jun 2017	06 Jun 2018	15 Jun 2017
TP04/0.1-0.3	SE166371.006	LB126050	06 Jun 2017	07 Jun 2017	06 Jun 2018	14 Jun 2017	06 Jun 2018	15 Jun 2017
TP05/0.3-0.5	SE166371.007	LB126050	06 Jun 2017	07 Jun 2017	06 Jun 2018	14 Jun 2017	06 Jun 2018	15 Jun 2017
TP05/1.1-1.3	SE166371.008	LB126050	06 Jun 2017	07 Jun 2017	06 Jun 2018	14 Jun 2017	06 Jun 2018	15 Jun 2017
TP08/0.15-0.35	SE166371.012	LB126050	06 Jun 2017	07 Jun 2017	06 Jun 2018	14 Jun 2017	06 Jun 2018	15 Jun 2017
TP09/0.2-0.4	SE166371.013	LB126050	06 Jun 2017	07 Jun 2017	06 Jun 2018	14 Jun 2017	06 Jun 2018	15 Jun 2017
TP10/0.7-0.9	SE166371.016	LB126050	06 Jun 2017	07 Jun 2017	06 Jun 2018	14 Jun 2017	06 Jun 2018	15 Jun 2017
TP11/0.3-0.5	SE166371.018	LB126050	06 Jun 2017	07 Jun 2017	06 Jun 2018	14 Jun 2017	06 Jun 2018	15 Jun 2017
TP13/0.0-0.2	SE166371.022	LB126050	06 Jun 2017	07 Jun 2017	06 Jun 2018	14 Jun 2017	06 Jun 2018	15 Jun 2017
TP14/0.0-0.2	SE166371.025	LB126050	06 Jun 2017	07 Jun 2017	06 Jun 2018	14 Jun 2017	06 Jun 2018	15 Jun 2017
TP15/0.0-0.2	SE166371.027	LB126050	06 Jun 2017	07 Jun 2017	06 Jun 2018	14 Jun 2017	06 Jun 2018	15 Jun 2017
TP15/1.3-1.5	SE166371.029	LB126050	06 Jun 2017	07 Jun 2017	06 Jun 2018	14 Jun 2017	06 Jun 2018	15 Jun 2017
TP16/0.1-0.3	SE166371.031	LB126050	06 Jun 2017	07 Jun 2017	06 Jun 2018	14 Jun 2017	06 Jun 2018	15 Jun 2017
TP16/0.8-1.0	SE166371.032	LB126050	06 Jun 2017	07 Jun 2017	06 Jun 2018	14 Jun 2017	06 Jun 2018	15 Jun 2017

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP01/0.0-0.2	SE166371.001	LB125996	06 Jun 2017	07 Jun 2017	04 Jul 2017	13 Jun 2017	04 Jul 2017	15 Jun 2017
TP02/0.9-0.8	SE166371.003	LB125996	06 Jun 2017	07 Jun 2017	04 Jul 2017	13 Jun 2017	04 Jul 2017	15 Jun 2017
TP02/0.8-1.0	SE166371.004	LB125996	06 Jun 2017	07 Jun 2017	04 Jul 2017	13 Jun 2017	04 Jul 2017	15 Jun 2017
TP03/0.0-0.1	SE166371.005	LB125996	06 Jun 2017	07 Jun 2017	04 Jul 2017	13 Jun 2017	04 Jul 2017	15 Jun 2017
TP04/0.1-0.3	SE166371.006	LB125996	06 Jun 2017	07 Jun 2017	04 Jul 2017	13 Jun 2017	04 Jul 2017	15 Jun 2017
TP05/0.3-0.5	SE166371.007	LB125996	06 Jun 2017	07 Jun 2017	04 Jul 2017	13 Jun 2017	04 Jul 2017	15 Jun 2017
TP06/0.0-0.2	SE166371.009	LB125996	06 Jun 2017	07 Jun 2017	04 Jul 2017	13 Jun 2017	04 Jul 2017	15 Jun 2017
TP06/0.2-0.4	SE166371.010	LB125996	06 Jun 2017	07 Jun 2017	04 Jul 2017	13 Jun 2017	04 Jul 2017	15 Jun 2017
TP07/0.0-0.1	SE166371.011	LB125996	06 Jun 2017	07 Jun 2017	04 Jul 2017	13 Jun 2017	04 Jul 2017	15 Jun 2017
TP08/0.15-0.35	SE166371.012	LB125996	06 Jun 2017	07 Jun 2017	04 Jul 2017	13 Jun 2017	04 Jul 2017	15 Jun 2017
TP09/0.2-0.4	SE166371.013	LB125996	06 Jun 2017	07 Jun 2017	04 Jul 2017	13 Jun 2017	04 Jul 2017	15 Jun 2017
TP10/0.7-0.9	SE166371.014	LB125996	06 Jun 2017	07 Jun 2017	04 Jul 2017	13 Jun 2017	04 Jul 2017	15 Jun 2017
TP10/0.1-0.3	SE166371.015	LB125996	06 Jun 2017	07 Jun 2017	04 Jul 2017	13 Jun 2017	04 Jul 2017	15 Jun 2017
TP10/1.3-1.5	SE166371.017	LB125996	06 Jun 2017	07 Jun 2017	04 Jul 2017	13 Jun 2017	04 Jul 2017	15 Jun 2017
TP11/0.3-0.5	SE166371.018	LB125997	06 Jun 2017	07 Jun 2017	04 Jul 2017	13 Jun 2017	04 Jul 2017	15 Jun 2017
TP12/0.0-0.2	SE166371.020	LB125997	06 Jun 2017	07 Jun 2017	04 Jul 2017	13 Jun 2017	04 Jul 2017	15 Jun 2017
TP12/0.3-0.5	SE166371.021	LB125997	06 Jun 2017	07 Jun 2017	04 Jul 2017	13 Jun 2017	04 Jul 2017	15 Jun 2017
TP13/0.6-0.8	SE166371.023	LB125951	06 Jun 2017	07 Jun 2017	04 Jul 2017	13 Jun 2017	04 Jul 2017	14 Jun 2017
TP13/1.1-1.3	SE166371.024	LB125951	06 Jun 2017	07 Jun 2017	04 Jul 2017	13 Jun 2017	04 Jul 2017	14 Jun 2017
TP14/0.3-0.5	SE166371.026	LB125951	06 Jun 2017	07 Jun 2017	04 Jul 2017	13 Jun 2017	04 Jul 2017	14 Jun 2017
TP15/0.0-0.2	SE166371.027	LB125951	06 Jun 2017	07 Jun 2017	04 Jul 2017	13 Jun 2017	04 Jul 2017	14 Jun 2017
TP15/1.3-1.5	SE166371.029	LB125951	06 Jun 2017	07 Jun 2017	04 Jul 2017	13 Jun 2017	04 Jul 2017	14 Jun 2017
TP16/0.8-1.0	SE166371.032	LB125951	06 Jun 2017	07 Jun 2017	04 Jul 2017	13 Jun 2017	04 Jul 2017	14 Jun 2017
TP16/1.4-1.6	SE166371.033	LB125951	06 Jun 2017	07 Jun 2017	04 Jul 2017	13 Jun 2017	04 Jul 2017	14 Jun 2017
DUP02	SE166371.037	LB125951	06 Jun 2017	07 Jun 2017	04 Jul 2017	13 Jun 2017	04 Jul 2017	14 Jun 2017
DUP02A	SE166371.038	LB125951	06 Jun 2017	07 Jun 2017	04 Jul 2017	13 Jun 2017	04 Jul 2017	14 Jun 2017
DUP03	SE166371.039	LB125951	06 Jun 2017	07 Jun 2017	04 Jul 2017	13 Jun 2017	04 Jul 2017	14 Jun 2017
DUP03A	SE166371.040	LB125951	06 Jun 2017	07 Jun 2017	04 Jul 2017	13 Jun 2017	04 Jul 2017	14 Jun 2017

Moisture Content

Method: ME-(AU)-[ENV]AN002

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP01/0.0-0.2	SE166371.001	LB125920	06 Jun 2017	07 Jun 2017	20 Jun 2017	10 Jun 2017	15 Jun 2017	14 Jun 2017
TP02/0.2-0.4	SE166371.002	LB125920	06 Jun 2017	07 Jun 2017	20 Jun 2017	10 Jun 2017	15 Jun 2017	14 Jun 2017
TP02/0.9-0.8	SE166371.003	LB125920	06 Jun 2017	07 Jun 2017	20 Jun 2017	10 Jun 2017	15 Jun 2017	14 Jun 2017
TP02/0.8-1.0	SE166371.004	LB125920	06 Jun 2017	07 Jun 2017	20 Jun 2017	10 Jun 2017	15 Jun 2017	14 Jun 2017
TP03/0.0-0.1	SE166371.005	LB125920	06 Jun 2017	07 Jun 2017	20 Jun 2017	10 Jun 2017	15 Jun 2017	14 Jun 2017
TP04/0.1-0.3	SE166371.006	LB125920	06 Jun 2017	07 Jun 2017	20 Jun 2017	10 Jun 2017	15 Jun 2017	14 Jun 2017
TP05/0.3-0.5	SE166371.007	LB125920	06 Jun 2017	07 Jun 2017	20 Jun 2017	10 Jun 2017	15 Jun 2017	14 Jun 2017
TP05/1.1-1.3	SE166371.008	LB125920	06 Jun 2017	07 Jun 2017	20 Jun 2017	10 Jun 2017	15 Jun 2017	14 Jun 2017
TP06/0.0-0.2	SE166371.009	LB125920	06 Jun 2017	07 Jun 2017	20 Jun 2017	10 Jun 2017	15 Jun 2017	14 Jun 2017
TP06/0.2-0.4	SE166371.010	LB125920	06 Jun 2017	07 Jun 2017	20 Jun 2017	10 Jun 2017	15 Jun 2017	14 Jun 2017
TP07/0.0-0.1	SE166371.011	LB125920	06 Jun 2017	07 Jun 2017	20 Jun 2017	10 Jun 2017	15 Jun 2017	14 Jun 2017
TP08/0.15-0.35	SE166371.012	LB125920	06 Jun 2017	07 Jun 2017	20 Jun 2017	10 Jun 2017	15 Jun 2017	14 Jun 2017
TP09/0.2-0.4	SE166371.013	LB125920	06 Jun 2017	07 Jun 2017	20 Jun 2017	10 Jun 2017	15 Jun 2017	14 Jun 2017

HOLDING TIME SUMMARY

SE166371 R0

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS “Field Sampling Guide for Containers and Holding Time” (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

Moisture Content (continued)

Method: ME-(AU)-[ENV]AN002

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP10/0.7-0.9	SE166371.014	LB125920	06 Jun 2017	07 Jun 2017	20 Jun 2017	10 Jun 2017	15 Jun 2017	14 Jun 2017
TP10/0.1-0.3	SE166371.015	LB125920	06 Jun 2017	07 Jun 2017	20 Jun 2017	10 Jun 2017	15 Jun 2017	14 Jun 2017
TP10/0.7-0.9	SE166371.016	LB125920	06 Jun 2017	07 Jun 2017	20 Jun 2017	10 Jun 2017	15 Jun 2017	14 Jun 2017
TP10/1.3-1.5	SE166371.017	LB125920	06 Jun 2017	07 Jun 2017	20 Jun 2017	10 Jun 2017	15 Jun 2017	14 Jun 2017
TP11/0.3-0.5	SE166371.018	LB125920	06 Jun 2017	07 Jun 2017	20 Jun 2017	10 Jun 2017	15 Jun 2017	14 Jun 2017
TP11/1.0-1.2	SE166371.019	LB125920	06 Jun 2017	07 Jun 2017	20 Jun 2017	10 Jun 2017	15 Jun 2017	14 Jun 2017
TP12/0.0-0.2	SE166371.020	LB125920	06 Jun 2017	07 Jun 2017	20 Jun 2017	10 Jun 2017	15 Jun 2017	14 Jun 2017
TP12/0.3-0.5	SE166371.021	LB125921	06 Jun 2017	07 Jun 2017	20 Jun 2017	10 Jun 2017	15 Jun 2017	14 Jun 2017
TP13/0.0-0.2	SE166371.022	LB125921	06 Jun 2017	07 Jun 2017	20 Jun 2017	10 Jun 2017	15 Jun 2017	14 Jun 2017
TP13/0.6-0.8	SE166371.023	LB125921	06 Jun 2017	07 Jun 2017	20 Jun 2017	10 Jun 2017	15 Jun 2017	14 Jun 2017
TP13/1.1-1.3	SE166371.024	LB125921	06 Jun 2017	07 Jun 2017	20 Jun 2017	10 Jun 2017	15 Jun 2017	14 Jun 2017
TP14/0.0-0.2	SE166371.025	LB125921	06 Jun 2017	07 Jun 2017	20 Jun 2017	10 Jun 2017	15 Jun 2017	14 Jun 2017
TP14/0.3-0.5	SE166371.026	LB125921	06 Jun 2017	07 Jun 2017	20 Jun 2017	10 Jun 2017	15 Jun 2017	14 Jun 2017
TP15/0.0-0.2	SE166371.027	LB125921	06 Jun 2017	07 Jun 2017	20 Jun 2017	10 Jun 2017	15 Jun 2017	14 Jun 2017
TP15/0.6-.8	SE166371.028	LB125921	06 Jun 2017	07 Jun 2017	20 Jun 2017	10 Jun 2017	15 Jun 2017	14 Jun 2017
TP15/1.3-1.5	SE166371.029	LB125921	06 Jun 2017	07 Jun 2017	20 Jun 2017	10 Jun 2017	15 Jun 2017	14 Jun 2017
TP15/2.0-2.2	SE166371.030	LB125921	06 Jun 2017	07 Jun 2017	20 Jun 2017	10 Jun 2017	15 Jun 2017	14 Jun 2017
TP16/0.1-0.3	SE166371.031	LB125921	06 Jun 2017	07 Jun 2017	20 Jun 2017	10 Jun 2017	15 Jun 2017	14 Jun 2017
TP16/0.8-1.0	SE166371.032	LB125921	06 Jun 2017	07 Jun 2017	20 Jun 2017	10 Jun 2017	15 Jun 2017	14 Jun 2017
TP16/1.4-1.6	SE166371.033	LB125921	06 Jun 2017	07 Jun 2017	20 Jun 2017	10 Jun 2017	15 Jun 2017	14 Jun 2017
TP16/1.8-2.0	SE166371.034	LB125921	06 Jun 2017	07 Jun 2017	20 Jun 2017	10 Jun 2017	15 Jun 2017	14 Jun 2017
DUP01	SE166371.035	LB125921	06 Jun 2017	07 Jun 2017	20 Jun 2017	10 Jun 2017	15 Jun 2017	14 Jun 2017
DUP01A	SE166371.036	LB125921	06 Jun 2017	07 Jun 2017	20 Jun 2017	10 Jun 2017	15 Jun 2017	14 Jun 2017
DUP02	SE166371.037	LB125921	06 Jun 2017	07 Jun 2017	20 Jun 2017	10 Jun 2017	15 Jun 2017	14 Jun 2017
DUP02A	SE166371.038	LB125921	06 Jun 2017	07 Jun 2017	20 Jun 2017	10 Jun 2017	15 Jun 2017	14 Jun 2017
DUP03	SE166371.039	LB125921	06 Jun 2017	07 Jun 2017	20 Jun 2017	10 Jun 2017	15 Jun 2017	14 Jun 2017
DUP03A	SE166371.040	LB125921	06 Jun 2017	07 Jun 2017	20 Jun 2017	10 Jun 2017	15 Jun 2017	14 Jun 2017

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP01/0.0-0.2	SE166371.001	LB125781	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP02/0.2-0.4	SE166371.002	LB125781	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	14 Jun 2017
TP02/0.9-0.8	SE166371.003	LB125781	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP03/0.0-0.1	SE166371.005	LB125781	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP04/0.1-0.3	SE166371.006	LB125781	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	14 Jun 2017
TP05/0.3-0.5	SE166371.007	LB125781	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP05/1.1-1.3	SE166371.008	LB125781	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP06/0.0-0.2	SE166371.009	LB125781	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP07/0.0-0.1	SE166371.011	LB125781	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP08/0.15-0.35	SE166371.012	LB125781	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	14 Jun 2017
TP09/0.2-0.4	SE166371.013	LB125781	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP10/0.1-0.3	SE166371.015	LB125781	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	14 Jun 2017
TP10/0.7-0.9	SE166371.016	LB125781	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP10/1.3-1.5	SE166371.017	LB125781	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP11/0.3-0.5	SE166371.018	LB125782	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP11/1.0-1.2	SE166371.019	LB125782	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP12/0.0-0.2	SE166371.020	LB125782	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP13/0.0-0.2	SE166371.022	LB125782	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP13/0.6-0.8	SE166371.023	LB125782	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP13/1.1-1.3	SE166371.024	LB125782	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP14/0.0-0.2	SE166371.025	LB125782	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP14/0.3-0.5	SE166371.026	LB125782	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP15/0.0-0.2	SE166371.027	LB125782	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP15/0.6-.8	SE166371.028	LB125782	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP15/1.3-1.5	SE166371.029	LB125782	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP15/2.0-2.2	SE166371.030	LB125782	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP16/0.1-0.3	SE166371.031	LB125782	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP16/0.8-1.0	SE166371.032	LB125782	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP16/1.4-1.6	SE166371.033	LB125782	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP16/1.8-2.0	SE166371.034	LB125782	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

OC Pesticides in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
DUP01	SE166371.035	LB125782	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
DUP01A	SE166371.036	LB125782	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP01/0.0-0.2	SE166371.001	LB125781	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP02/0.2-0.4	SE166371.002	LB125781	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP02/0.9-0.8	SE166371.003	LB125781	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP03/0.0-0.1	SE166371.005	LB125781	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP04/0.1-0.3	SE166371.006	LB125781	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP05/0.3-0.5	SE166371.007	LB125781	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP05/1.1-1.3	SE166371.008	LB125781	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP06/0.0-0.2	SE166371.009	LB125781	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP07/0.0-0.1	SE166371.011	LB125781	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP08/0.15-0.35	SE166371.012	LB125781	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP09/0.2-0.4	SE166371.013	LB125781	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP10/0.1-0.3	SE166371.015	LB125781	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP10/0.7-0.9	SE166371.016	LB125781	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP10/1.3-1.5	SE166371.017	LB125781	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP11/0.3-0.5	SE166371.018	LB125782	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP11/1.0-1.2	SE166371.019	LB125782	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP12/0.0-0.2	SE166371.020	LB125782	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP13/0.0-0.2	SE166371.022	LB125782	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP13/0.6-0.8	SE166371.023	LB125782	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP13/1.1-1.3	SE166371.024	LB125782	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP14/0.0-0.2	SE166371.025	LB125782	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP14/0.3-0.5	SE166371.026	LB125782	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP15/0.0-0.2	SE166371.027	LB125782	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP15/0.6-.8	SE166371.028	LB125782	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP15/1.3-1.5	SE166371.029	LB125782	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP15/2.0-2.2	SE166371.030	LB125782	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP16/0.1-0.3	SE166371.031	LB125782	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP16/0.8-1.0	SE166371.032	LB125782	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP16/1.4-1.6	SE166371.033	LB125782	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP16/1.8-2.0	SE166371.034	LB125782	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
DUP01	SE166371.035	LB125782	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
DUP01A	SE166371.036	LB125782	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017

PCBs in Soil

Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP01/0.0-0.2	SE166371.001	LB125781	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP02/0.2-0.4	SE166371.002	LB125781	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP02/0.9-0.8	SE166371.003	LB125781	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	14 Jun 2017
TP03/0.0-0.1	SE166371.005	LB125781	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP04/0.1-0.3	SE166371.006	LB125781	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP05/0.3-0.5	SE166371.007	LB125781	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	14 Jun 2017
TP05/1.1-1.3	SE166371.008	LB125781	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP06/0.0-0.2	SE166371.009	LB125781	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP07/0.0-0.1	SE166371.011	LB125781	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP08/0.15-0.35	SE166371.012	LB125781	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP09/0.2-0.4	SE166371.013	LB125781	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	14 Jun 2017
TP10/0.1-0.3	SE166371.015	LB125781	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP10/0.7-0.9	SE166371.016	LB125781	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP10/1.3-1.5	SE166371.017	LB125781	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP11/0.3-0.5	SE166371.018	LB125782	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP11/1.0-1.2	SE166371.019	LB125782	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP12/0.0-0.2	SE166371.020	LB125782	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP13/0.0-0.2	SE166371.022	LB125782	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP13/0.6-0.8	SE166371.023	LB125782	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP13/1.1-1.3	SE166371.024	LB125782	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP14/0.0-0.2	SE166371.025	LB125782	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017

HOLDING TIME SUMMARY

SE166371 R0

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS “Field Sampling Guide for Containers and Holding Time” (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

PCBs in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP14/0.3-0.5	SE166371.026	LB125782	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP15/0.0-0.2	SE166371.027	LB125782	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP15/0.6-.8	SE166371.028	LB125782	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP15/1.3-1.5	SE166371.029	LB125782	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP15/2.0-2.2	SE166371.030	LB125782	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP16/0.1-0.3	SE166371.031	LB125782	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP16/0.8-1.0	SE166371.032	LB125782	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP16/1.4-1.6	SE166371.033	LB125782	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP16/1.8-2.0	SE166371.034	LB125782	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
DUP01	SE166371.035	LB125782	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
DUP01A	SE166371.036	LB125782	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017

Total Recoverable Metals in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP01/0.0-0.2	SE166371.001	LB125939	06 Jun 2017	07 Jun 2017	03 Dec 2017	13 Jun 2017	03 Dec 2017	15 Jun 2017
TP02/0.9-0.8	SE166371.003	LB125939	06 Jun 2017	07 Jun 2017	03 Dec 2017	13 Jun 2017	03 Dec 2017	15 Jun 2017
TP02/0.8-1.0	SE166371.004	LB125939	06 Jun 2017	07 Jun 2017	03 Dec 2017	13 Jun 2017	03 Dec 2017	15 Jun 2017
TP03/0.0-0.1	SE166371.005	LB125939	06 Jun 2017	07 Jun 2017	03 Dec 2017	13 Jun 2017	03 Dec 2017	15 Jun 2017
TP04/0.1-0.3	SE166371.006	LB125939	06 Jun 2017	07 Jun 2017	03 Dec 2017	13 Jun 2017	03 Dec 2017	15 Jun 2017
TP05/0.3-0.5	SE166371.007	LB125939	06 Jun 2017	07 Jun 2017	03 Dec 2017	13 Jun 2017	03 Dec 2017	15 Jun 2017
TP06/0.0-0.2	SE166371.009	LB125939	06 Jun 2017	07 Jun 2017	03 Dec 2017	13 Jun 2017	03 Dec 2017	15 Jun 2017
TP06/0.2-0.4	SE166371.010	LB125939	06 Jun 2017	07 Jun 2017	03 Dec 2017	13 Jun 2017	03 Dec 2017	15 Jun 2017
TP07/0.0-0.1	SE166371.011	LB125939	06 Jun 2017	07 Jun 2017	03 Dec 2017	13 Jun 2017	03 Dec 2017	15 Jun 2017
TP08/0.15-0.35	SE166371.012	LB125939	06 Jun 2017	07 Jun 2017	03 Dec 2017	13 Jun 2017	03 Dec 2017	15 Jun 2017
TP09/0.2-0.4	SE166371.013	LB125939	06 Jun 2017	07 Jun 2017	03 Dec 2017	13 Jun 2017	03 Dec 2017	15 Jun 2017
TP10/0.7-0.9	SE166371.014	LB125939	06 Jun 2017	07 Jun 2017	03 Dec 2017	13 Jun 2017	03 Dec 2017	15 Jun 2017
TP10/0.1-0.3	SE166371.015	LB125939	06 Jun 2017	07 Jun 2017	03 Dec 2017	13 Jun 2017	03 Dec 2017	15 Jun 2017
TP10/1.3-1.5	SE166371.017	LB125939	06 Jun 2017	07 Jun 2017	03 Dec 2017	13 Jun 2017	03 Dec 2017	15 Jun 2017
TP11/0.3-0.5	SE166371.018	LB125939	06 Jun 2017	07 Jun 2017	03 Dec 2017	13 Jun 2017	03 Dec 2017	15 Jun 2017
TP12/0.0-0.2	SE166371.020	LB125940	06 Jun 2017	07 Jun 2017	03 Dec 2017	13 Jun 2017	03 Dec 2017	15 Jun 2017
TP12/0.3-0.5	SE166371.021	LB125940	06 Jun 2017	07 Jun 2017	03 Dec 2017	13 Jun 2017	03 Dec 2017	15 Jun 2017
TP13/0.6-0.8	SE166371.023	LB125940	06 Jun 2017	07 Jun 2017	03 Dec 2017	13 Jun 2017	03 Dec 2017	15 Jun 2017
TP13/1.1-1.3	SE166371.024	LB125940	06 Jun 2017	07 Jun 2017	03 Dec 2017	13 Jun 2017	03 Dec 2017	15 Jun 2017
TP14/0.3-0.5	SE166371.026	LB125940	06 Jun 2017	07 Jun 2017	03 Dec 2017	13 Jun 2017	03 Dec 2017	15 Jun 2017
TP15/0.0-0.2	SE166371.027	LB125940	06 Jun 2017	07 Jun 2017	03 Dec 2017	13 Jun 2017	03 Dec 2017	15 Jun 2017
TP15/1.3-1.5	SE166371.029	LB125940	06 Jun 2017	07 Jun 2017	03 Dec 2017	13 Jun 2017	03 Dec 2017	15 Jun 2017
TP16/0.8-1.0	SE166371.032	LB125940	06 Jun 2017	07 Jun 2017	03 Dec 2017	13 Jun 2017	03 Dec 2017	15 Jun 2017
TP16/1.4-1.6	SE166371.033	LB125940	06 Jun 2017	07 Jun 2017	03 Dec 2017	13 Jun 2017	03 Dec 2017	15 Jun 2017
DUP02	SE166371.037	LB125940	06 Jun 2017	07 Jun 2017	03 Dec 2017	13 Jun 2017	03 Dec 2017	15 Jun 2017
DUP02A	SE166371.038	LB125940	06 Jun 2017	07 Jun 2017	03 Dec 2017	13 Jun 2017	03 Dec 2017	15 Jun 2017
DUP03	SE166371.039	LB125940	06 Jun 2017	07 Jun 2017	03 Dec 2017	13 Jun 2017	03 Dec 2017	15 Jun 2017
DUP03A	SE166371.040	LB125940	06 Jun 2017	07 Jun 2017	03 Dec 2017	13 Jun 2017	03 Dec 2017	15 Jun 2017

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP01/0.0-0.2	SE166371.001	LB125781	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP02/0.2-0.4	SE166371.002	LB125781	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP02/0.9-0.8	SE166371.003	LB125781	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP03/0.0-0.1	SE166371.005	LB125781	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP04/0.1-0.3	SE166371.006	LB125781	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP05/0.3-0.5	SE166371.007	LB125781	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP05/1.1-1.3	SE166371.008	LB125781	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP06/0.0-0.2	SE166371.009	LB125781	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP07/0.0-0.1	SE166371.011	LB125781	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP08/0.15-0.35	SE166371.012	LB125781	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP09/0.2-0.4	SE166371.013	LB125781	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP10/0.1-0.3	SE166371.015	LB125781	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP10/0.7-0.9	SE166371.016	LB125781	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP10/1.3-1.5	SE166371.017	LB125781	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP11/0.3-0.5	SE166371.018	LB125782	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP11/1.0-1.2	SE166371.019	LB125782	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017

HOLDING TIME SUMMARY

SE166371 R0

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS “Field Sampling Guide for Containers and Holding Time” (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

TRH (Total Recoverable Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN403

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP12/0.0-0.2	SE166371.020	LB125782	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP13/0.0-0.2	SE166371.022	LB125782	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP13/0.6-0.8	SE166371.023	LB125782	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP13/1.1-1.3	SE166371.024	LB125782	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP14/0.0-0.2	SE166371.025	LB125782	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP14/0.3-0.5	SE166371.026	LB125782	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP15/0.0-0.2	SE166371.027	LB125782	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP15/0.6-.8	SE166371.028	LB125782	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP15/1.3-1.5	SE166371.029	LB125782	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP15/2.0-2.2	SE166371.030	LB125782	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP16/0.1-0.3	SE166371.031	LB125782	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP16/0.8-1.0	SE166371.032	LB125782	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP16/1.4-1.6	SE166371.033	LB125782	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
TP16/1.8-2.0	SE166371.034	LB125782	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
DUP01	SE166371.035	LB125782	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017
DUP01A	SE166371.036	LB125782	06 Jun 2017	07 Jun 2017	20 Jun 2017	08 Jun 2017	18 Jul 2017	15 Jun 2017

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP02/0.9-0.8	SE166371.003	LB125851	06 Jun 2017	07 Jun 2017	20 Jun 2017	09 Jun 2017	19 Jul 2017	15 Jun 2017
TP04/0.1-0.3	SE166371.006	LB125851	06 Jun 2017	07 Jun 2017	20 Jun 2017	09 Jun 2017	19 Jul 2017	15 Jun 2017
TP05/1.1-1.3	SE166371.008	LB125851	06 Jun 2017	07 Jun 2017	20 Jun 2017	09 Jun 2017	19 Jul 2017	15 Jun 2017
TP08/0.15-0.35	SE166371.012	LB125851	06 Jun 2017	07 Jun 2017	20 Jun 2017	09 Jun 2017	19 Jul 2017	15 Jun 2017
TP09/0.2-0.4	SE166371.013	LB125851	06 Jun 2017	07 Jun 2017	20 Jun 2017	09 Jun 2017	19 Jul 2017	15 Jun 2017
TP10/1.3-1.5	SE166371.017	LB125851	06 Jun 2017	07 Jun 2017	20 Jun 2017	09 Jun 2017	19 Jul 2017	15 Jun 2017
TP11/0.3-0.5	SE166371.018	LB125851	06 Jun 2017	07 Jun 2017	20 Jun 2017	09 Jun 2017	19 Jul 2017	15 Jun 2017
TP12/0.0-0.2	SE166371.020	LB125851	06 Jun 2017	07 Jun 2017	20 Jun 2017	09 Jun 2017	19 Jul 2017	15 Jun 2017
TP13/1.1-1.3	SE166371.024	LB125851	06 Jun 2017	07 Jun 2017	20 Jun 2017	09 Jun 2017	19 Jul 2017	15 Jun 2017
TP14/0.3-0.5	SE166371.026	LB125851	06 Jun 2017	07 Jun 2017	20 Jun 2017	09 Jun 2017	19 Jul 2017	15 Jun 2017
TP15/2.0-2.2	SE166371.030	LB125851	06 Jun 2017	07 Jun 2017	20 Jun 2017	09 Jun 2017	19 Jul 2017	15 Jun 2017
TP16/1.8-2.0	SE166371.034	LB125851	06 Jun 2017	07 Jun 2017	20 Jun 2017	09 Jun 2017	19 Jul 2017	15 Jun 2017

VOCs in Water

Method: ME-(AU)-[ENV]AN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TRIP SPIKE	SE166371.041	LB125924	06 Jun 2017	07 Jun 2017	13 Jun 2017	10 Jun 2017	20 Jul 2017	14 Jun 2017

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP02/0.9-0.8	SE166371.003	LB125851	06 Jun 2017	07 Jun 2017	20 Jun 2017	09 Jun 2017	19 Jul 2017	15 Jun 2017
TP04/0.1-0.3	SE166371.006	LB125851	06 Jun 2017	07 Jun 2017	20 Jun 2017	09 Jun 2017	19 Jul 2017	15 Jun 2017
TP05/1.1-1.3	SE166371.008	LB125851	06 Jun 2017	07 Jun 2017	20 Jun 2017	09 Jun 2017	19 Jul 2017	15 Jun 2017
TP08/0.15-0.35	SE166371.012	LB125851	06 Jun 2017	07 Jun 2017	20 Jun 2017	09 Jun 2017	19 Jul 2017	15 Jun 2017
TP09/0.2-0.4	SE166371.013	LB125851	06 Jun 2017	07 Jun 2017	20 Jun 2017	09 Jun 2017	19 Jul 2017	15 Jun 2017
TP10/1.3-1.5	SE166371.017	LB125851	06 Jun 2017	07 Jun 2017	20 Jun 2017	09 Jun 2017	19 Jul 2017	15 Jun 2017
TP11/0.3-0.5	SE166371.018	LB125851	06 Jun 2017	07 Jun 2017	20 Jun 2017	09 Jun 2017	19 Jul 2017	15 Jun 2017
TP12/0.0-0.2	SE166371.020	LB125851	06 Jun 2017	07 Jun 2017	20 Jun 2017	09 Jun 2017	19 Jul 2017	15 Jun 2017
TP13/1.1-1.3	SE166371.024	LB125851	06 Jun 2017	07 Jun 2017	20 Jun 2017	09 Jun 2017	19 Jul 2017	15 Jun 2017
TP14/0.3-0.5	SE166371.026	LB125851	06 Jun 2017	07 Jun 2017	20 Jun 2017	09 Jun 2017	19 Jul 2017	15 Jun 2017
TP15/2.0-2.2	SE166371.030	LB125851	06 Jun 2017	07 Jun 2017	20 Jun 2017	09 Jun 2017	19 Jul 2017	15 Jun 2017
TP16/1.8-2.0	SE166371.034	LB125851	06 Jun 2017	07 Jun 2017	20 Jun 2017	09 Jun 2017	19 Jul 2017	15 Jun 2017

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	TP02/0.2-0.4	SE166371.002	%	60 - 130%	97
	TP04/0.1-0.3	SE166371.006	%	60 - 130%	93
	TP08/0.15-0.35	SE166371.012	%	60 - 130%	96
	TP10/0.1-0.3	SE166371.015	%	60 - 130%	95
	TP14/0.3-0.5	SE166371.026	%	60 - 130%	101
	TP15/1.3-1.5	SE166371.029	%	60 - 130%	98

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	TP01/0.0-0.2	SE166371.001	%	70 - 130%	94
	TP02/0.2-0.4	SE166371.002	%	70 - 130%	90
	TP03/0.0-0.1	SE166371.005	%	70 - 130%	86
	TP04/0.1-0.3	SE166371.006	%	70 - 130%	88
	TP05/0.3-0.5	SE166371.007	%	70 - 130%	90
	TP06/0.0-0.2	SE166371.009	%	70 - 130%	88
	TP07/0.0-0.1	SE166371.011	%	70 - 130%	90
	TP08/0.15-0.35	SE166371.012	%	70 - 130%	94
	TP09/0.2-0.4	SE166371.013	%	70 - 130%	92
	TP10/0.7-0.9	SE166371.016	%	70 - 130%	94
	TP11/1.0-1.2	SE166371.019	%	70 - 130%	84
	TP12/0.0-0.2	SE166371.020	%	70 - 130%	82
	TP13/0.0-0.2	SE166371.022	%	70 - 130%	94
	TP14/0.0-0.2	SE166371.025	%	70 - 130%	84
	TP15/0.6-.8	SE166371.028	%	70 - 130%	88
	TP16/0.1-0.3	SE166371.031	%	70 - 130%	86
	TP16/0.8-1.0	SE166371.032	%	70 - 130%	88
	DUP01	SE166371.035	%	70 - 130%	90
	DUP01A	SE166371.036	%	70 - 130%	90
d14-p-terphenyl (Surrogate)	TP01/0.0-0.2	SE166371.001	%	70 - 130%	92
	TP02/0.2-0.4	SE166371.002	%	70 - 130%	86
	TP03/0.0-0.1	SE166371.005	%	70 - 130%	98
	TP04/0.1-0.3	SE166371.006	%	70 - 130%	108
	TP05/0.3-0.5	SE166371.007	%	70 - 130%	90
	TP06/0.0-0.2	SE166371.009	%	70 - 130%	92
	TP07/0.0-0.1	SE166371.011	%	70 - 130%	88
	TP08/0.15-0.35	SE166371.012	%	70 - 130%	98
	TP09/0.2-0.4	SE166371.013	%	70 - 130%	96
	TP10/0.7-0.9	SE166371.016	%	70 - 130%	96
	TP11/1.0-1.2	SE166371.019	%	70 - 130%	88
	TP12/0.0-0.2	SE166371.020	%	70 - 130%	84
	TP13/0.0-0.2	SE166371.022	%	70 - 130%	94
	TP14/0.0-0.2	SE166371.025	%	70 - 130%	86
	TP15/0.6-.8	SE166371.028	%	70 - 130%	86
	TP16/0.1-0.3	SE166371.031	%	70 - 130%	90
	TP16/0.8-1.0	SE166371.032	%	70 - 130%	90
	DUP01	SE166371.035	%	70 - 130%	98
	DUP01A	SE166371.036	%	70 - 130%	82
d5-nitrobenzene (Surrogate)	TP01/0.0-0.2	SE166371.001	%	70 - 130%	88
	TP02/0.2-0.4	SE166371.002	%	70 - 130%	84
	TP03/0.0-0.1	SE166371.005	%	70 - 130%	86
	TP04/0.1-0.3	SE166371.006	%	70 - 130%	90
	TP05/0.3-0.5	SE166371.007	%	70 - 130%	88
	TP06/0.0-0.2	SE166371.009	%	70 - 130%	90
	TP07/0.0-0.1	SE166371.011	%	70 - 130%	92
	TP08/0.15-0.35	SE166371.012	%	70 - 130%	92
	TP09/0.2-0.4	SE166371.013	%	70 - 130%	96
	TP10/0.7-0.9	SE166371.016	%	70 - 130%	92
	TP11/1.0-1.2	SE166371.019	%	70 - 130%	86
	TP12/0.0-0.2	SE166371.020	%	70 - 130%	84
	TP13/0.0-0.2	SE166371.022	%	70 - 130%	92
	TP14/0.0-0.2	SE166371.025	%	70 - 130%	90

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
d5-nitrobenzene (Surrogate)	TP15/0.6-.8	SE166371.028	%	70 - 130%	92
	TP16/0.1-0.3	SE166371.031	%	70 - 130%	90
	TP16/0.8-1.0	SE166371.032	%	70 - 130%	88
	DUP01	SE166371.035	%	70 - 130%	96
	DUP01A	SE166371.036	%	70 - 130%	100

PCBs in Soil

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	TP02/0.9-0.8	SE166371.003	%	60 - 130%	97
	TP05/0.3-0.5	SE166371.007	%	60 - 130%	93
	TP09/0.2-0.4	SE166371.013	%	60 - 130%	104
	TP13/0.6-0.8	SE166371.023	%	60 - 130%	107
	TP15/0.0-0.2	SE166371.027	%	60 - 130%	99
	TP16/1.4-1.6	SE166371.033	%	60 - 130%	100

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	TP02/0.9-0.8	SE166371.003	%	60 - 130%	71
	TP04/0.1-0.3	SE166371.006	%	60 - 130%	73
	TP05/1.1-1.3	SE166371.008	%	60 - 130%	77
	TP08/0.15-0.35	SE166371.012	%	60 - 130%	71
	TP09/0.2-0.4	SE166371.013	%	60 - 130%	75
	TP10/1.3-1.5	SE166371.017	%	60 - 130%	74
	TP11/0.3-0.5	SE166371.018	%	60 - 130%	71
	TP12/0.0-0.2	SE166371.020	%	60 - 130%	70
	TP13/1.1-1.3	SE166371.024	%	60 - 130%	73
	TP14/0.3-0.5	SE166371.026	%	60 - 130%	71
	TP15/2.0-2.2	SE166371.030	%	60 - 130%	75
	TP16/1.8-2.0	SE166371.034	%	60 - 130%	72
d4-1,2-dichloroethane (Surrogate)	TP02/0.9-0.8	SE166371.003	%	60 - 130%	83
	TP04/0.1-0.3	SE166371.006	%	60 - 130%	89
	TP05/1.1-1.3	SE166371.008	%	60 - 130%	81
	TP08/0.15-0.35	SE166371.012	%	60 - 130%	83
	TP09/0.2-0.4	SE166371.013	%	60 - 130%	85
	TP10/1.3-1.5	SE166371.017	%	60 - 130%	86
	TP11/0.3-0.5	SE166371.018	%	60 - 130%	82
	TP12/0.0-0.2	SE166371.020	%	60 - 130%	92
	TP13/1.1-1.3	SE166371.024	%	60 - 130%	91
	TP14/0.3-0.5	SE166371.026	%	60 - 130%	89
	TP15/2.0-2.2	SE166371.030	%	60 - 130%	96
	TP16/1.8-2.0	SE166371.034	%	60 - 130%	89
d8-toluene (Surrogate)	TP02/0.9-0.8	SE166371.003	%	60 - 130%	75
	TP04/0.1-0.3	SE166371.006	%	60 - 130%	80
	TP05/1.1-1.3	SE166371.008	%	60 - 130%	78
	TP08/0.15-0.35	SE166371.012	%	60 - 130%	74
	TP09/0.2-0.4	SE166371.013	%	60 - 130%	74
	TP10/1.3-1.5	SE166371.017	%	60 - 130%	75
	TP11/0.3-0.5	SE166371.018	%	60 - 130%	71
	TP12/0.0-0.2	SE166371.020	%	60 - 130%	77
	TP13/1.1-1.3	SE166371.024	%	60 - 130%	76
	TP14/0.3-0.5	SE166371.026	%	60 - 130%	79
	TP15/2.0-2.2	SE166371.030	%	60 - 130%	90
	TP16/1.8-2.0	SE166371.034	%	60 - 130%	77
Dibromofluoromethane (Surrogate)	TP02/0.9-0.8	SE166371.003	%	60 - 130%	76
	TP04/0.1-0.3	SE166371.006	%	60 - 130%	79
	TP05/1.1-1.3	SE166371.008	%	60 - 130%	70
	TP08/0.15-0.35	SE166371.012	%	60 - 130%	74
	TP09/0.2-0.4	SE166371.013	%	60 - 130%	76
	TP10/1.3-1.5	SE166371.017	%	60 - 130%	79
	TP11/0.3-0.5	SE166371.018	%	60 - 130%	74
	TP12/0.0-0.2	SE166371.020	%	60 - 130%	82
	TP13/1.1-1.3	SE166371.024	%	60 - 130%	80

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

VOC's in Soil (continued)

Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Dibromofluoromethane (Surrogate)	TP14/0.3-0.5	SE166371.026	%	60 - 130%	81
	TP15/2.0-2.2	SE166371.030	%	60 - 130%	84
	TP16/1.8-2.0	SE166371.034	%	60 - 130%	77

VOCs in Water

Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	TRIP SPIKE	SE166371.041	%	40 - 130%	92
d4-1,2-dichloroethane (Surrogate)	TRIP SPIKE	SE166371.041	%	40 - 130%	100
d8-toluene (Surrogate)	TRIP SPIKE	SE166371.041	%	40 - 130%	98
Dibromofluoromethane (Surrogate)	TRIP SPIKE	SE166371.041	%	40 - 130%	110

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	TP02/0.9-0.8	SE166371.003	%	60 - 130%	71
	TP04/0.1-0.3	SE166371.006	%	60 - 130%	73
	TP05/1.1-1.3	SE166371.008	%	60 - 130%	77
	TP08/0.15-0.35	SE166371.012	%	60 - 130%	71
	TP09/0.2-0.4	SE166371.013	%	60 - 130%	75
	TP10/1.3-1.5	SE166371.017	%	60 - 130%	74
	TP11/0.3-0.5	SE166371.018	%	60 - 130%	71
	TP12/0.0-0.2	SE166371.020	%	60 - 130%	70
	TP13/1.1-1.3	SE166371.024	%	60 - 130%	73
	TP14/0.3-0.5	SE166371.026	%	60 - 130%	71
	TP15/2.0-2.2	SE166371.030	%	60 - 130%	75
	TP16/1.8-2.0	SE166371.034	%	60 - 130%	72
d4-1,2-dichloroethane (Surrogate)	TP02/0.9-0.8	SE166371.003	%	60 - 130%	83
	TP04/0.1-0.3	SE166371.006	%	60 - 130%	89
	TP05/1.1-1.3	SE166371.008	%	60 - 130%	81
	TP08/0.15-0.35	SE166371.012	%	60 - 130%	83
	TP09/0.2-0.4	SE166371.013	%	60 - 130%	85
	TP10/1.3-1.5	SE166371.017	%	60 - 130%	86
	TP11/0.3-0.5	SE166371.018	%	60 - 130%	82
	TP12/0.0-0.2	SE166371.020	%	60 - 130%	92
	TP13/1.1-1.3	SE166371.024	%	60 - 130%	91
	TP14/0.3-0.5	SE166371.026	%	60 - 130%	89
	TP15/2.0-2.2	SE166371.030	%	60 - 130%	96
	TP16/1.8-2.0	SE166371.034	%	60 - 130%	89
d8-toluene (Surrogate)	TP02/0.9-0.8	SE166371.003	%	60 - 130%	75
	TP04/0.1-0.3	SE166371.006	%	60 - 130%	80
	TP05/1.1-1.3	SE166371.008	%	60 - 130%	78
	TP08/0.15-0.35	SE166371.012	%	60 - 130%	74
	TP09/0.2-0.4	SE166371.013	%	60 - 130%	74
	TP10/1.3-1.5	SE166371.017	%	60 - 130%	75
	TP11/0.3-0.5	SE166371.018	%	60 - 130%	71
	TP12/0.0-0.2	SE166371.020	%	60 - 130%	77
	TP13/1.1-1.3	SE166371.024	%	60 - 130%	76
	TP14/0.3-0.5	SE166371.026	%	60 - 130%	79
	TP15/2.0-2.2	SE166371.030	%	60 - 130%	90
	TP16/1.8-2.0	SE166371.034	%	60 - 130%	77
Dibromofluoromethane (Surrogate)	TP02/0.9-0.8	SE166371.003	%	60 - 130%	76
	TP04/0.1-0.3	SE166371.006	%	60 - 130%	79
	TP05/1.1-1.3	SE166371.008	%	60 - 130%	70
	TP08/0.15-0.35	SE166371.012	%	60 - 130%	74
	TP09/0.2-0.4	SE166371.013	%	60 - 130%	76
	TP10/1.3-1.5	SE166371.017	%	60 - 130%	79
	TP11/0.3-0.5	SE166371.018	%	60 - 130%	74
	TP12/0.0-0.2	SE166371.020	%	60 - 130%	82
	TP13/1.1-1.3	SE166371.024	%	60 - 130%	80
	TP14/0.3-0.5	SE166371.026	%	60 - 130%	81
	TP15/2.0-2.2	SE166371.030	%	60 - 130%	84
	TP16/1.8-2.0	SE166371.034	%	60 - 130%	77

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Sample Number	Parameter	Units	LOR	Result
LB125951.001	Mercury	mg/kg	0.05	<0.05
LB125996.001	Mercury	mg/kg	0.05	<0.05
LB125997.001	Mercury	mg/kg	0.05	<0.05

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number		Parameter	Units	LOR	Result
LB125781.001		Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1
		Alpha BHC	mg/kg	0.1	<0.1
		Lindane	mg/kg	0.1	<0.1
		Heptachlor	mg/kg	0.1	<0.1
		Aldrin	mg/kg	0.1	<0.1
		Beta BHC	mg/kg	0.1	<0.1
		Delta BHC	mg/kg	0.1	<0.1
		Heptachlor epoxide	mg/kg	0.1	<0.1
		Alpha Endosulfan	mg/kg	0.2	<0.2
		Gamma Chlordane	mg/kg	0.1	<0.1
		Alpha Chlordane	mg/kg	0.1	<0.1
		p,p'-DDE	mg/kg	0.1	<0.1
		Dieldrin	mg/kg	0.2	<0.2
		Endrin	mg/kg	0.2	<0.2
		Beta Endosulfan	mg/kg	0.2	<0.2
		p,p'-DDD	mg/kg	0.1	<0.1
		p,p'-DDT	mg/kg	0.1	<0.1
		Endosulfan sulphate	mg/kg	0.1	<0.1
		Endrin Aldehyde	mg/kg	0.1	<0.1
		Methoxychlor	mg/kg	0.1	<0.1
		Endrin Ketone	mg/kg	0.1	<0.1
		Isodrin	mg/kg	0.1	<0.1
		Mirex	mg/kg	0.1	<0.1
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	84
LB125782.001		Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1
		Alpha BHC	mg/kg	0.1	<0.1
		Lindane	mg/kg	0.1	<0.1
		Heptachlor	mg/kg	0.1	<0.1
		Aldrin	mg/kg	0.1	<0.1
		Beta BHC	mg/kg	0.1	<0.1
		Delta BHC	mg/kg	0.1	<0.1
		Heptachlor epoxide	mg/kg	0.1	<0.1
		Alpha Endosulfan	mg/kg	0.2	<0.2
		Gamma Chlordane	mg/kg	0.1	<0.1
		Alpha Chlordane	mg/kg	0.1	<0.1
		p,p'-DDE	mg/kg	0.1	<0.1
		Dieldrin	mg/kg	0.2	<0.2
		Endrin	mg/kg	0.2	<0.2
		Beta Endosulfan	mg/kg	0.2	<0.2
		p,p'-DDD	mg/kg	0.1	<0.1
		p,p'-DDT	mg/kg	0.1	<0.1
		Endosulfan sulphate	mg/kg	0.1	<0.1
		Endrin Aldehyde	mg/kg	0.1	<0.1
		Methoxychlor	mg/kg	0.1	<0.1
		Endrin Ketone	mg/kg	0.1	<0.1
		Isodrin	mg/kg	0.1	<0.1
		Mirex	mg/kg	0.1	<0.1
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	75

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result
LB125781.001	Naphthalene	mg/kg	0.1	<0.1
	2-methylnaphthalene	mg/kg	0.1	<0.1
	1-methylnaphthalene	mg/kg	0.1	<0.1
	Acenaphthylene	mg/kg	0.1	<0.1
	Acenaphthene	mg/kg	0.1	<0.1

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Sample Number		Parameter	Units	LOR	Result
LB125781.001		Fluorene	mg/kg	0.1	<0.1
		Phenanthrene	mg/kg	0.1	<0.1
		Anthracene	mg/kg	0.1	<0.1
		Fluoranthene	mg/kg	0.1	<0.1
		Pyrene	mg/kg	0.1	<0.1
		Benzo(a)anthracene	mg/kg	0.1	<0.1
		Chrysene	mg/kg	0.1	<0.1
		Benzo(a)pyrene	mg/kg	0.1	<0.1
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1
		Dibenzo(ah)anthracene	mg/kg	0.1	<0.1
		Benzo(ghi)perylene	mg/kg	0.1	<0.1
		Total PAH (18)	mg/kg	0.8	<0.8
	Surrogates	d5-nitrobenzene (Surrogate)	%	-	98
		2-fluorobiphenyl (Surrogate)	%	-	106
		d14-p-terphenyl (Surrogate)	%	-	98
LB125782.001		Naphthalene	mg/kg	0.1	<0.1
		2-methylnaphthalene	mg/kg	0.1	<0.1
		1-methylnaphthalene	mg/kg	0.1	<0.1
		Acenaphthylene	mg/kg	0.1	<0.1
		Acenaphthene	mg/kg	0.1	<0.1
		Fluorene	mg/kg	0.1	<0.1
		Phenanthrene	mg/kg	0.1	<0.1
		Anthracene	mg/kg	0.1	<0.1
		Fluoranthene	mg/kg	0.1	<0.1
		Pyrene	mg/kg	0.1	<0.1
		Benzo(a)anthracene	mg/kg	0.1	<0.1
		Chrysene	mg/kg	0.1	<0.1
		Benzo(a)pyrene	mg/kg	0.1	<0.1
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1
		Dibenzo(ah)anthracene	mg/kg	0.1	<0.1
		Benzo(ghi)perylene	mg/kg	0.1	<0.1
		Total PAH (18)	mg/kg	0.8	<0.8
	Surrogates	d5-nitrobenzene (Surrogate)	%	-	94
		2-fluorobiphenyl (Surrogate)	%	-	88
		d14-p-terphenyl (Surrogate)	%	-	86

PCBs in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number		Parameter	Units	LOR	Result
LB125781.001		Arochlor 1016	mg/kg	0.2	<0.2
		Arochlor 1221	mg/kg	0.2	<0.2
		Arochlor 1232	mg/kg	0.2	<0.2
		Arochlor 1242	mg/kg	0.2	<0.2
		Arochlor 1248	mg/kg	0.2	<0.2
		Arochlor 1254	mg/kg	0.2	<0.2
		Arochlor 1260	mg/kg	0.2	<0.2
		Arochlor 1262	mg/kg	0.2	<0.2
		Arochlor 1268	mg/kg	0.2	<0.2
		Total PCBs (Arochlors)	mg/kg	1	<1
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	84
LB125782.001		Arochlor 1016	mg/kg	0.2	<0.2
		Arochlor 1221	mg/kg	0.2	<0.2
		Arochlor 1232	mg/kg	0.2	<0.2
		Arochlor 1242	mg/kg	0.2	<0.2
		Arochlor 1248	mg/kg	0.2	<0.2
		Arochlor 1254	mg/kg	0.2	<0.2
		Arochlor 1260	mg/kg	0.2	<0.2
		Arochlor 1262	mg/kg	0.2	<0.2
		Arochlor 1268	mg/kg	0.2	<0.2
		Total PCBs (Arochlors)	mg/kg	1	<1
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	75

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Total Recoverable Metals in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Sample Number	Parameter	Units	LOR	Result
LB125939.001	Arsenic, As	mg/kg	3	<3
	Cadmium, Cd	mg/kg	0.3	<0.3
	Chromium, Cr	mg/kg	0.3	<0.3
	Copper, Cu	mg/kg	0.5	<0.5
	Lead, Pb	mg/kg	1	<1
	Nickel, Ni	mg/kg	0.5	<0.5
	Zinc, Zn	mg/kg	0.5	<0.5
LB125940.001	Arsenic, As	mg/kg	3	<3
	Cadmium, Cd	mg/kg	0.3	<0.3
	Chromium, Cr	mg/kg	0.3	<0.3
	Copper, Cu	mg/kg	0.5	<0.5
	Lead, Pb	mg/kg	1	<1
	Nickel, Ni	mg/kg	0.5	<0.5
	Zinc, Zn	mg/kg	0.5	<0.5

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Sample Number	Parameter	Units	LOR	Result
LB125781.001	TRH C10-C14	mg/kg	20	<20
	TRH C15-C28	mg/kg	45	<45
	TRH C29-C36	mg/kg	45	<45
	TRH C37-C40	mg/kg	100	<100
	TRH C10-C36 Total	mg/kg	110	<110
LB125782.001	TRH C10-C14	mg/kg	20	<20
	TRH C15-C28	mg/kg	45	<45
	TRH C29-C36	mg/kg	45	<45
	TRH C37-C40	mg/kg	100	<100
	TRH C10-C36 Total	mg/kg	110	<110

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result
LB125851.001	Monocyclic Aromatic Hydrocarbons	Benzene	mg/kg	0.1	<0.1
		Toluene	mg/kg	0.1	<0.1
		Ethylbenzene	mg/kg	0.1	<0.1
		m/p-xylene	mg/kg	0.2	<0.2
		o-xylene	mg/kg	0.1	<0.1
	Polycyclic VOCs	Naphthalene	mg/kg	0.1	<0.1
	Surrogates	Dibromofluoromethane (Surrogate)	%	-	72
		d4-1,2-dichloroethane (Surrogate)	%	-	81
		d8-toluene (Surrogate)	%	-	95
		Bromofluorobenzene (Surrogate)	%	-	76
	Totals	Total BTEX	mg/kg	0.6	<0.6

VOCs in Water

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result
LB125924.001	Monocyclic Aromatic Hydrocarbons	Benzene	µg/L	0.5	<0.5
		Toluene	µg/L	0.5	<0.5
		Ethylbenzene	µg/L	0.5	<0.5
		m/p-xylene	µg/L	1	<1
		o-xylene	µg/L	0.5	<0.5
	Surrogates	Dibromofluoromethane (Surrogate)	%	-	106
		d4-1,2-dichloroethane (Surrogate)	%	-	96
		d8-toluene (Surrogate)	%	-	110
		Bromofluorobenzene (Surrogate)	%	-	118

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result
LB125851.001		TRH C6-C9	mg/kg	20	<20
	Surrogates	Dibromofluoromethane (Surrogate)	%	-	72
		d4-1,2-dichloroethane (Surrogate)	%	-	81
		d8-toluene (Surrogate)	%	-	95

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE166371.006	LB125996.014	Mercury	mg/kg	0.05	<0.05	<0.05	149	0
SE166371.017	LB125996.024	Mercury	mg/kg	0.05	<0.05	<0.05	187	0
SE166371.039	LB125951.014	Mercury	mg/kg	0.05	<0.05	<0.05	200	0
SE166413.003	LB125951.024	Mercury	mg/kg	0.05	<0.05	<0.05	200	0
SE166476.006	LB125997.024	Mercury	mg/kg	0.05	0.29	0.28	48	3
SE166477.007	LB125997.014	Mercury	mg/kg	0.05	0.50	0.50	40	1

Moisture Content

Method: ME-(AU)-[ENV]AN002

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE166371.010	LB125920.011	% Moisture	%w/w	0.5	7.5	7.7	43	2
SE166371.020	LB125920.022	% Moisture	%w/w	0.5	11	13	39	18
SE166371.030	LB125921.011	% Moisture	%w/w	0.5	12	13	38	10
SE166371.040	LB125921.022	% Moisture	%w/w	0.5	8.3	8.6	42	3

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE166357.031	LB125781.027		Naphthalene	mg/kg	0.1	0	0	200	0
			2-methylnaphthalene	mg/kg	0.1	0	0	200	0
			1-methylnaphthalene	mg/kg	0.1	0	0	200	0
			Acenaphthylene	mg/kg	0.1	0	0	200	0
			Acenaphthene	mg/kg	0.1	0	0	200	0
			Fluorene	mg/kg	0.1	0	0	200	0
			Phenanthrene	mg/kg	0.1	0	0	200	0
			Anthracene	mg/kg	0.1	0.01	0	200	0
			Fluoranthene	mg/kg	0.1	0	0	200	0
			Pyrene	mg/kg	0.1	0	0	200	0
			Benzo(a)anthracene	mg/kg	0.1	0	0	200	0
			Chrysene	mg/kg	0.1	0.01	0	200	0
			Benzo(b&j)fluoranthene	mg/kg	0.1	0	0	200	0
			Benzo(k)fluoranthene	mg/kg	0.1	0	0	200	0
			Benzo(a)pyrene	mg/kg	0.1	0	0	200	0
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	0	0	200	0
			Dibenzo(ah)anthracene	mg/kg	0.1	0	0	200	0
			Benzo(ghi)perylene	mg/kg	0.1	0	0	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	0	0	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	0.242	0.242	134	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	0.121	0.121	175	0
			Total PAH (18)	mg/kg	0.8	0	0	200	0
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.42	0.42	30	0
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.46	0.45	30	2
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.46	0.45	30	2
SE166371.036	LB125782.023		Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			Acenaphthylene	mg/kg	0.1	<0.1	<0.1	200	0
			Acenaphthene	mg/kg	0.1	<0.1	<0.1	200	0
			Fluorene	mg/kg	0.1	<0.1	<0.1	200	0
			Phenanthrene	mg/kg	0.1	<0.1	<0.1	200	0
			Anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Chrysene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	173	0
			Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	<0.2	<0.2	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3	134	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2	175	0

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE166371.036	LB125782.023		Total PAH (18)	mg/kg	0.8	<0.8	<0.8	200	0
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	30	4
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.4	30	7
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.5	30	11

Total Recoverable Metals in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE166371.007	LB125939.014	Arsenic, As	mg/kg	3	5	4	52	21
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	151	0
		Chromium, Cr	mg/kg	0.3	14	29	32	72 ②
		Copper, Cu	mg/kg	0.5	34	24	32	33 ②
		Lead, Pb	mg/kg	1	14	14	37	3
		Nickel, Ni	mg/kg	0.5	5.9	22	34	116 ②
		Zinc, Zn	mg/kg	0.5	27	33	37	18
SE166371.018	LB125939.024	Arsenic, As	mg/kg	3	4	3	57	23
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.3	11	8.5	35	26
		Copper, Cu	mg/kg	0.5	5.9	4.7	39	22
		Lead, Pb	mg/kg	1	12	10	39	12
		Nickel, Ni	mg/kg	0.5	2.0	1.4	59	36
		Zinc, Zn	mg/kg	0.5	13	8.5	49	43
SE166371.037	LB125940.014	Arsenic, As	mg/kg	3	6	7	46	27
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	136	0
		Chromium, Cr	mg/kg	0.3	21	16	33	30
		Copper, Cu	mg/kg	0.5	9.1	10	35	12
		Lead, Pb	mg/kg	1	25	27	34	6
		Nickel, Ni	mg/kg	0.5	5.1	5.5	39	8
		Zinc, Zn	mg/kg	0.5	35	40	35	15
SE166477.006	LB125940.024	Arsenic, As	mg/kg	3	5	5	50	8
		Cadmium, Cd	mg/kg	0.3	0.4	<0.3	116	28
		Chromium, Cr	mg/kg	0.3	9.8	10	35	5
		Copper, Cu	mg/kg	0.5	57	62	31	8
		Lead, Pb	mg/kg	1	280	280	30	0
		Nickel, Ni	mg/kg	0.5	4.5	4.6	41	2
		Zinc, Zn	mg/kg	0.5	300	230	31	24

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE166357.031	LB125781.027		TRH C10-C14	mg/kg	20	0	0	200	0
			TRH C15-C28	mg/kg	45	0	0	200	0
			TRH C29-C36	mg/kg	45	0	0	200	0
			TRH C37-C40	mg/kg	100	0	0	200	0
			TRH C10-C36 Total	mg/kg	110	0	0	200	0
			TRH C10-C40 Total	mg/kg	210	0	0	200	0
		TRH F Bands	TRH >C10-C16 (F2)	mg/kg	25	0	0	200	0
			TRH >C10-C16 (F2) - Naphthalene	mg/kg	25	0	0	200	0
			TRH >C16-C34 (F3)	mg/kg	90	0	0	200	0
			TRH >C34-C40 (F4)	mg/kg	120	0	0	200	0
SE166371.006	LB125781.026		TRH C10-C14	mg/kg	20	<20	0	200	0
			TRH C15-C28	mg/kg	45	56	186	67	107 ⑨
			TRH C29-C36	mg/kg	45	<45	67	126	39
			TRH C37-C40	mg/kg	100	<100	0	200	0
			TRH C10-C36 Total	mg/kg	110	<110	253	95	79
			TRH C10-C40 Total	mg/kg	210	<210	233	166	10
		TRH F Bands	TRH >C10-C16 (F2)	mg/kg	25	<25	0	200	0
			TRH >C10-C16 (F2) - Naphthalene	mg/kg	25	<25	0	200	0
			TRH >C16-C34 (F3)	mg/kg	90	<90	233	88	89 ⑨
			TRH >C34-C40 (F4)	mg/kg	120	<120	0	200	0

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Original	Duplicate	Parameter	Units	LOR

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

VOC's in Soil (continued)

Method: ME-(AU)-[ENV]AN433

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE166371.026	LB125851.014	Monocyclic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
		Aromatic	Toluene	mg/kg	0.1	<0.1	<0.1	200	0
			Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
			o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	4.1	4.0	50	1
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.5	4.5	50	0
			d8-toluene (Surrogate)	mg/kg	-	4.0	3.9	50	1
			Bromofluorobenzene (Surrogate)	mg/kg	-	3.6	3.6	50	1
		Totals	Total Xylenes*	mg/kg	0.3	<0.3	<0.3	200	0
			Total BTEX	mg/kg	0.6	<0.6	<0.6	200	0
SE166421.002	LB125851.022	Monocyclic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
		Aromatic	Toluene	mg/kg	0.1	<0.1	<0.1	200	0
			Ethylbenzene	mg/kg	0.1	0.1	0.1	117	9
			m/p-xylene	mg/kg	0.2	0.7	0.6	61	5
			o-xylene	mg/kg	0.1	0.2	0.2	93	13
		Polycyclic	Naphthalene	mg/kg	0.1	0.2	0.2	83	32
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	3.7	3.9	50	5
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	3.7	3.8	50	1
			d8-toluene (Surrogate)	mg/kg	-	4.4	3.9	50	11
			Bromofluorobenzene (Surrogate)	mg/kg	-	4.8	4.3	50	10
		Totals	Total Xylenes*	mg/kg	0.3	0.8	0.8	68	6
			Total BTEX	mg/kg	0.6	1.0	0.9	62	6

VOCs in Water

Method: ME-(AU)-[ENV]AN433

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE166321.006	LB125924.024	Monocyclic	Benzene	µg/L	0.5	<0.5	0.02	200	0
		Aromatic	Toluene	µg/L	0.5	<0.5	0.13	200	0
			Ethylbenzene	µg/L	0.5	<0.5	0.03	200	0
			m/p-xylene	µg/L	1	<1	0.1	200	0
			o-xylene	µg/L	0.5	<0.5	0.03	200	0
		Surrogates	Dibromofluoromethane (Surrogate)	µg/L	-	5.7	6.43	30	13
			d4-1,2-dichloroethane (Surrogate)	µg/L	-	5.2	6.2	30	18
			d8-toluene (Surrogate)	µg/L	-	4.9	5.47	30	11
			Bromofluorobenzene (Surrogate)	µg/L	-	4.6	4.67	30	1

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE166371.026	LB125851.014		TRH C6-C10	mg/kg	25	<25	<25	200	0
			TRH C6-C9	mg/kg	20	<20	<20	200	0
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	4.1	4.0	30	1
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.5	4.5	30	0
			d8-toluene (Surrogate)	mg/kg	-	4.0	3.9	30	1
			Bromofluorobenzene (Surrogate)	mg/kg	-	3.6	3.6	30	1
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200	0
SE166421.002	LB125851.022		TRH C6-C10	mg/kg	25	<25	<25	169	0
			TRH C6-C9	mg/kg	20	<20	<20	200	0
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	3.7	3.9	30	5
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	3.7	3.8	30	1
			d8-toluene (Surrogate)	mg/kg	-	4.4	3.9	30	11
			Bromofluorobenzene (Surrogate)	mg/kg	-	4.8	4.3	30	10
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	177	0

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB125951.002		Mercury	mg/kg	0.05	0.21	0.2	70 - 130	103
LB125996.002		Mercury	mg/kg	0.05	0.21	0.2	70 - 130	105
LB125997.002		Mercury	mg/kg	0.05	0.21	0.2	70 - 130	103

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB125781.002		Heptachlor	mg/kg	0.1	0.2	0.2	60 - 140	113
		Aldrin	mg/kg	0.1	0.2	0.2	60 - 140	110
		Delta BHC	mg/kg	0.1	0.2	0.2	60 - 140	113
		Dieldrin	mg/kg	0.2	<0.2	0.2	60 - 140	98
		Endrin	mg/kg	0.2	0.2	0.2	60 - 140	113
		p,p'-DDT	mg/kg	0.1	0.2	0.2	60 - 140	113
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.13	0.15	40 - 130	85
LB125782.002		Heptachlor	mg/kg	0.1	0.3	0.2	60 - 140	125
		Aldrin	mg/kg	0.1	0.2	0.2	60 - 140	118
		Delta BHC	mg/kg	0.1	0.2	0.2	60 - 140	125
		Dieldrin	mg/kg	0.2	0.2	0.2	60 - 140	108
		Endrin	mg/kg	0.2	0.2	0.2	60 - 140	121
		p,p'-DDT	mg/kg	0.1	0.2	0.2	60 - 140	123
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.12	0.15	40 - 130	81

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB125781.002		Naphthalene	mg/kg	0.1	3.8	4	60 - 140	95
		Acenaphthylene	mg/kg	0.1	3.1	4	60 - 140	78
		Acenaphthene	mg/kg	0.1	3.9	4	60 - 140	98
		Phenanthrene	mg/kg	0.1	3.1	4	60 - 140	78
		Anthracene	mg/kg	0.1	3.4	4	60 - 140	84
		Fluoranthene	mg/kg	0.1	3.3	4	60 - 140	82
		Pyrene	mg/kg	0.1	3.4	4	60 - 140	85
		Benzo(a)pyrene	mg/kg	0.1	3.8	4	60 - 140	96
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	80
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	92
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	84
LB125782.002		Naphthalene	mg/kg	0.1	4.1	4	60 - 140	102
		Acenaphthylene	mg/kg	0.1	4.7	4	60 - 140	116
		Acenaphthene	mg/kg	0.1	4.2	4	60 - 140	104
		Phenanthrene	mg/kg	0.1	3.7	4	60 - 140	93
		Anthracene	mg/kg	0.1	3.8	4	60 - 140	95
		Fluoranthene	mg/kg	0.1	3.9	4	60 - 140	97
		Pyrene	mg/kg	0.1	4.0	4	60 - 140	99
		Benzo(a)pyrene	mg/kg	0.1	4.7	4	60 - 140	118
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	96
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	94
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	80

PCBs in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB125781.002	Arochlor 1260	mg/kg	0.2	0.5	0.4	60 - 140	123
LB125782.002	Arochlor 1260	mg/kg	0.2	0.4	0.4	60 - 140	109

Total Recoverable Metals in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB125939.002	Arsenic, As	mg/kg	3	51	50	80 - 120	101
	Cadmium, Cd	mg/kg	0.3	49	50	80 - 120	98
	Chromium, Cr	mg/kg	0.3	50	50	80 - 120	100
	Copper, Cu	mg/kg	0.5	51	50	80 - 120	102
	Lead, Pb	mg/kg	1	50	50	80 - 120	99
	Nickel, Ni	mg/kg	0.5	50	50	80 - 120	101
	Zinc, Zn	mg/kg	0.5	51	50	80 - 120	102
LB125940.002	Arsenic, As	mg/kg	3	48	50	80 - 120	95
	Cadmium, Cd	mg/kg	0.3	47	50	80 - 120	95

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Total Recoverable Metals in Soil/Waste Solids/Materials by ICPOES (continued)

Method: ME-(AU)-[ENV]AN040/AN320

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB125940.002		Chromium, Cr	mg/kg	0.3	49	50	80 - 120	97
		Copper, Cu	mg/kg	0.5	50	50	80 - 120	100
		Lead, Pb	mg/kg	1	48	50	80 - 120	96
		Nickel, Ni	mg/kg	0.5	49	50	80 - 120	98
		Zinc, Zn	mg/kg	0.5	49	50	80 - 120	98

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB125781.002		TRH C10-C14	mg/kg	20	37	40	60 - 140	93
		TRH C15-C28	mg/kg	45	<45	40	60 - 140	93
		TRH C29-C36	mg/kg	45	<45	40	60 - 140	80
	TRH F Bands	TRH >C10-C16 (F2)	mg/kg	25	38	40	60 - 140	95
		TRH >C16-C34 (F3)	mg/kg	90	<90	40	60 - 140	88
		TRH >C34-C40 (F4)	mg/kg	120	<120	20	60 - 140	80
LB125782.002		TRH C10-C14	mg/kg	20	37	40	60 - 140	93
		TRH C15-C28	mg/kg	45	<45	40	60 - 140	93
		TRH C29-C36	mg/kg	45	<45	40	60 - 140	80
	TRH F Bands	TRH >C10-C16 (F2)	mg/kg	25	38	40	60 - 140	95
		TRH >C16-C34 (F3)	mg/kg	90	<90	40	60 - 140	88
		TRH >C34-C40 (F4)	mg/kg	120	<120	20	60 - 140	80

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB125851.002	Monocyclic Aromatic	Benzene	mg/kg	0.1	1.8	2.9	60 - 140	63
		Toluene	mg/kg	0.1	2.1	2.9	60 - 140	73
		Ethylbenzene	mg/kg	0.1	2.1	2.9	60 - 140	73
		m/p-xylene	mg/kg	0.2	4.4	5.8	60 - 140	76
		o-xylene	mg/kg	0.1	2.1	2.9	60 - 140	73
	Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	3.6	5	60 - 140	73
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.1	5	60 - 140	81
		d8-toluene (Surrogate)	mg/kg	-	4.9	5	60 - 140	98
		Bromofluorobenzene (Surrogate)	mg/kg	-	4.2	5	60 - 140	84

VOCs in Water

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB125924.002	Monocyclic Aromatic	Benzene	µg/L	0.5	50	45.45	60 - 140	109
		Toluene	µg/L	0.5	50	45.45	60 - 140	110
		Ethylbenzene	µg/L	0.5	50	45.45	60 - 140	109
		m/p-xylene	µg/L	1	99	90.9	60 - 140	109
		o-xylene	µg/L	0.5	50	45.45	60 - 140	109
	Surrogates	Dibromofluoromethane (Surrogate)	µg/L	-	4.7	5	60 - 140	94
		d4-1,2-dichloroethane (Surrogate)	µg/L	-	5.1	5	60 - 140	103
		d8-toluene (Surrogate)	µg/L	-	4.9	5	60 - 140	97
		Bromofluorobenzene (Surrogate)	µg/L	-	4.5	5	60 - 140	89

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB125851.002		TRH C6-C10	mg/kg	25	<25	24.65	60 - 140	88
		TRH C6-C9	mg/kg	20	<20	23.2	60 - 140	85
	Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	3.6	5	60 - 140	73
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.1	5	60 - 140	81
		d8-toluene (Surrogate)	mg/kg	-	4.9	5	60 - 140	98
		Bromofluorobenzene (Surrogate)	mg/kg	-	4.2	5	60 - 140	84
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	7.25	60 - 140	125

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub -sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE166356.006	LB125996.004	Mercury	mg/kg	0.05	0.22	0.06	0.2	81
SE166371.018	LB125997.004	Mercury	mg/kg	0.05	0.22	<0.05	0.2	103
SE166371.023	LB125951.004	Mercury	mg/kg	0.05	0.21	<0.05	0.2	83

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

QC Sample	Sample Number		Parameter	Units	LOR	Original	Spike	Recovery%
SE166357.023	LB125781.026		Naphthalene	mg/kg	0.1	0	4	93
			2-methylnaphthalene	mg/kg	0.1	0	-	-
			1-methylnaphthalene	mg/kg	0.1	0	-	-
			Acenaphthylene	mg/kg	0.1	0	4	83
			Acenaphthene	mg/kg	0.1	0	4	96
			Fluorene	mg/kg	0.1	0	-	-
			Phenanthrene	mg/kg	0.1	0	4	84
			Anthracene	mg/kg	0.1	0	4	83
			Fluoranthene	mg/kg	0.1	0	4	81
			Pyrene	mg/kg	0.1	0	4	88
			Benzo(a)anthracene	mg/kg	0.1	0	-	-
			Chrysene	mg/kg	0.1	0.01	-	-
			Benzo(b&j)fluoranthene	mg/kg	0.1	0	-	-
			Benzo(k)fluoranthene	mg/kg	0.1	0	-	-
			Benzo(a)pyrene	mg/kg	0.1	0	4	97
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	0	-	-
			Dibenzo(ah)anthracene	mg/kg	0.1	0	-	-
			Benzo(ghi)perylene	mg/kg	0.1	0	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ	0.2	0	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	0.242	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	0.121	-	-
			Total PAH (18)	mg/kg	0.8	0	-	-
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.41	-	86
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.44	-	88
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.45	-	90

Total Recoverable Metals in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE166356.007	LB125939.004	Arsenic, As	mg/kg	3	53	7	50	93
		Cadmium, Cd	mg/kg	0.3	43	0.3	50	84
		Chromium, Cr	mg/kg	0.3	56	13	50	87
		Copper, Cu	mg/kg	0.5	110	69	50	84
		Lead, Pb	mg/kg	1	160	130	50	56 ④
		Nickel, Ni	mg/kg	0.5	52	10	50	84
		Zinc, Zn	mg/kg	0.5	190	170	50	43 ④
SE166371.020	LB125940.004	Arsenic, As	mg/kg	3	44	3	50	83
		Cadmium, Cd	mg/kg	0.3	41	<0.3	50	81
		Chromium, Cr	mg/kg	0.3	49	7.3	50	83
		Copper, Cu	mg/kg	0.5	52	8.9	50	86
		Lead, Pb	mg/kg	1	51	15	50	72
		Nickel, Ni	mg/kg	0.5	49	7.4	50	82
		Zinc, Zn	mg/kg	0.5	65	24	50	83

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

QC Sample	Sample Number		Parameter	Units	LOR	Original	Spike	Recovery%
SE166357.023	LB125781.028		TRH C10-C14	mg/kg	20	0	40	108
			TRH C15-C28	mg/kg	45	7	40	118
			TRH C29-C36	mg/kg	45	0	40	103
			TRH C37-C40	mg/kg	100	0	-	-
			TRH C10-C36 Total	mg/kg	110	7	-	-
			TRH C10-C40 Total	mg/kg	210	13	-	-
		TRH F Bands	TRH >C10-C16 (F2)	mg/kg	25	0	40	110
			TRH >C10-C16 (F2) - Naphthalene	mg/kg	25	0	-	-
			TRH >C16-C34 (F3)	mg/kg	90	13	40	103
			TRH >C34-C40 (F4)	mg/kg	120	0	-	-

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub -sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE166371.003	LB125851.004	Monocyclic	Benzene	mg/kg	0.1	1.9	<0.1	2.9	64
		Aromatic	Toluene	mg/kg	0.1	2.0	<0.1	2.9	67
			Ethylbenzene	mg/kg	0.1	2.3	<0.1	2.9	80
			m/p-xylene	mg/kg	0.2	4.9	<0.2	5.8	85
			o-xylene	mg/kg	0.1	2.4	<0.1	2.9	82
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	-	-
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	3.7	3.8	-	74
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.1	4.2	-	83
			d8-toluene (Surrogate)	mg/kg	-	3.7	3.8	-	73
			Bromofluorobenzene (Surrogate)	mg/kg	-	4.2	3.5	-	85
		Totals	Total Xylenes*	mg/kg	0.3	7.3	<0.3	-	-
			Total BTEX	mg/kg	0.6	13	<0.6	-	-

VOCs in Water

Method: ME-(AU)-[ENV]AN433

QC Sample	Sample Number		Parameter	Units	LOR	Original	Spike	Recovery%
SE166321.008	LB125924.026	Monocyclic	Benzene	µg/L	0.5	<0.5	45.45	93
		Aromatic	Toluene	µg/L	0.5	<0.5	45.45	103
			Ethylbenzene	µg/L	0.5	<0.5	45.45	94
			m/p-xylene	µg/L	1	<1	90.9	95
			o-xylene	µg/L	0.5	<0.5	45.45	99
		Surrogates	Dibromofluoromethane (Surrogate)	µg/L	-	5.1	-	116
			d4-1,2-dichloroethane (Surrogate)	µg/L	-	4.8	-	114
			d8-toluene (Surrogate)	µg/L	-	4.4	-	102
			Bromofluorobenzene (Surrogate)	µg/L	-	4.2	-	89

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE166371.003	LB125851.004		TRH C6-C10	mg/kg	25	<25	<25	24.65	79
			TRH C6-C9	mg/kg	20	<20	<20	23.2	76
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	3.7	3.8	-	74
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.1	4.2	-	83
			d8-toluene (Surrogate)	mg/kg	-	3.7	3.8	-	73
			Bromofluorobenzene (Surrogate)	mg/kg	-	4.2	3.5	-	85
		VPH F	Benzene (F0)	mg/kg	0.1	1.9	<0.1	-	-
		Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	7.25	84

MATRIX SPIKE DUPLICATES

SE166371 R0

Matrix spike duplicates are calculated as Relative Percent Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The original result is the analyte concentration of the matrix spike. The Duplicate result is the analyte concentration of the matrix spike duplicate.

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

No matrix spike duplicates were required for this job.

Samples analysed as received.

Solid samples expressed on a dry weight basis.

QC criteria are subject to internal review according to the SGS QA/QC plan and may be provided on request or alternatively can be found here: http://www.sgs.com.au/~/media/Local/Australia/Documents/Technical Documents/MP-AU-ENV-QU-022 QA QC Plan.pdf

*	NATA accreditation does not cover the performance of this service.
-	Sample not analysed for this analyte.

IS	Insufficient sample for analysis.
LNR	Sample listed, but not received.
LOR	Limit of reporting.
QFH	QC result is above the upper tolerance.
QFL	QC result is below the lower tolerance.

①	At least 2 of 3 surrogates are within acceptance criteria.
②	RPD failed acceptance criteria due to sample heterogeneity.
③	Results less than 5 times LOR preclude acceptance criteria for RPD.
④	Recovery failed acceptance criteria due to matrix interference.
⑤	Recovery failed acceptance criteria due to the presence of significant concentration of analyte (i.e. the concentration of analyte exceeds the spike level).
⑥	LOR was raised due to sample matrix interference.
⑦	LOR was raised due to dilution of significantly high concentration of analyte in sample.
⑧	Reanalysis of sample in duplicate confirmed sample heterogeneity and inconsistency of results.
⑨	Recovery failed acceptance criteria due to sample heterogeneity.
⑩	LOR was raised due to high conductivity of the sample (required dilution).
†	Refer to Analytical Report comments for further information.

SAMPLE RECEIPT ADVICE

SE166371

CLIENT DETAILS

Contact	Craig Cowper
Client	SLR CONSULTING AUSTRALIA PTY LTD
Address	Lego Building, 2 Lincoln Street (PO Box 176 NSW LANECOVE 1595) LANECOVE NSW 2066
Telephone	02 9427 8100
Facsimile	02 9427 8200
Email	ccowper@slrconsulting.com
Project	**610.17191.00001 Pymble**
Order Number	**22711**
Samples	41

LABORATORY DETAILS

Manager	Huong Crawford
Laboratory	SGS Alexandria Environmental
Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	+61 2 8594 0400
Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
Samples Received	Wed 7/6/2017
Report Due	Thu 15/6/2017
SGS Reference	**SE166371**

SUBMISSION DETAILS

This is to confirm that 41 samples were received on Wednesday 7/6/2017. Results are expected to be ready by Thursday 15/6/2017. Please quote SGS reference SE166371 when making enquiries. Refer below for details relating to sample integrity upon receipt.

Samples clearly labelled	Yes	Complete documentation received	Yes
Sample container provider	SGS	Sample cooling method	Ice Bricks
Samples received in correct containers	Yes	Sample counts by matrix	40 Soil, 1 Water
Date documentation received	7/6/2017	Type of documentation received	COC
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	9.4°C	Sufficient sample for analysis	Yes
Turnaround time requested	Standard		

Unless otherwise instructed, water and bulk samples will be held for one month from date of report, and soil samples will be held for two months.

COMMENTS

TP01/0.0-0.2 labelled as TP02/0.0-0.2.
4 soil and 1 water samples have been placed on hold.

SAMPLE RECEIPT ADVICE

SE166371

CLIENT DETAILS

Client SLR CONSULTING AUSTRALIA PTY LTD

Project 610.17191.00001 Pymble

SUMMARY OF ANALYSIS

No.	Sample ID	OC Pesticides in Soil	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	PCBs in Soil	Total Recoverable Metals in Soil/Waste	TRH (Total Recoverable Hydrocarbons) in Soil	VOC's in Soil	Volatile Petroleum Hydrocarbons in Soil
001	TP01/0.0-0.2	-	26	-	7	-	-	-
002	TP02/0.2-0.4	28	26	-	-	-	-	-
003	TP02/0.9-0.8	-	-	11	7	10	12	8
004	TP02/0.8-1.0	-	-	-	7	-	-	-
005	TP03/0.0-0.1	-	26	-	7	-	-	-
006	TP04/0.1-0.3	28	26	-	7	10	12	8
007	TP05/0.3-0.5	-	26	11	7	-	-	-
008	TP05/1.1-1.3	-	-	-	-	10	12	8
009	TP06/0.0-0.2	-	26	-	7	-	-	-
010	TP06/0.2-0.4	-	-	-	7	-	-	-
011	TP07/0.0-0.1	-	26	-	7	-	-	-
012	TP08/0.15-0.35	28	26	-	7	10	12	8
013	TP09/0.2-0.4	-	26	11	7	10	12	8
014	TP10/0.7-0.9	-	-	-	7	-	-	-
015	TP10/0.1-0.3	28	-	-	7	-	-	-
016	TP10/0.7-0.9	-	26	-	-	-	-	-
017	TP10/1.3-1.5	-	-	-	7	10	12	8
018	TP11/0.3-0.5	-	-	-	7	10	12	8
019	TP11/1.0-1.2	-	26	-	-	-	-	-
020	TP12/0.0-0.2	-	26	-	7	10	12	8
021	TP12/0.3-0.5	-	-	-	7	-	-	-
022	TP13/0.0-0.2	-	26	-	-	-	-	-
023	TP13/0.6-0.8	-	-	11	7	-	-	-
024	TP13/1.1-1.3	-	-	-	7	10	12	8

CONTINUED OVERLEAF

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details .
Testing as per this table shall commence immediately unless the client intervenes with a correction .

SAMPLE RECEIPT ADVICE

SE166371

CLIENT DETAILS

Client SLR CONSULTING AUSTRALIA PTY LTD

Project 610.17191.00001 Pymble

SUMMARY OF ANALYSIS

No.	Sample ID	OC Pesticides in Soil	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	PCBs in Soil	Total Recoverable Metals in Soil/Waste	TRH (Total Recoverable Hydrocarbons) in Soil	VOC's in Soil	Volatile Petroleum Hydrocarbons in Soil
025	TP14/0.0-0.2	-	26	-	-	-	-	-
026	TP14/0.3-0.5	28	-	-	7	10	12	8
027	TP15/0.0-0.2	-	-	11	7	-	-	-
028	TP15/0.6-.8	-	26	-	-	-	-	-
029	TP15/1.3-1.5	28	-	-	7	-	-	-
030	TP15/2.0-2.2	-	-	-	-	10	12	8
031	TP16/0.1-0.3	-	26	-	-	-	-	-
032	TP16/0.8-1.0	-	26	-	7	-	-	-
033	TP16/1.4-1.6	-	-	11	7	-	-	-
034	TP16/1.8-2.0	-	-	-	-	10	12	8
035	DUP01	-	26	-	-	-	-	-
036	DUP01A	-	26	-	-	-	-	-
037	DUP02	-	-	-	7	-	-	-
038	DUP02A	-	-	-	7	-	-	-
039	DUP03	-	-	-	7	-	-	-
040	DUP03A	-	-	-	7	-	-	-

CONTINUED OVERLEAF

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details .
Testing as per this table shall commence immediately unless the client intervenes with a correction .

SAMPLE RECEIPT ADVICE

SE166371

CLIENT DETAILS

Client SLR CONSULTING AUSTRALIA PTY LTD

Project 610.17191.00001 Pymble

SUMMARY OF ANALYSIS

No.	Sample ID	Fibre Identification in soil	Mercury in Soil	Moisture Content
001	TP01/0.0-0.2	-	1	1
002	TP02/0.2-0.4	1	-	1
003	TP02/0.9-0.8	-	1	1
004	TP02/0.8-1.0	-	1	1
005	TP03/0.0-0.1	-	1	1
006	TP04/0.1-0.3	1	1	1
007	TP05/0.3-0.5	1	1	1
008	TP05/1.1-1.3	1	-	1
009	TP06/0.0-0.2	-	1	1
010	TP06/0.2-0.4	-	1	1
011	TP07/0.0-0.1	-	1	1
012	TP08/0.15-0.35	1	1	1
013	TP09/0.2-0.4	1	1	1
014	TP10/0.7-0.9	-	1	1
015	TP10/0.1-0.3	-	1	1
016	TP10/0.7-0.9	1	-	1
017	TP10/1.3-1.5	-	1	1
018	TP11/0.3-0.5	1	1	1
019	TP11/1.0-1.2	-	-	1
020	TP12/0.0-0.2	-	1	1
021	TP12/0.3-0.5	-	1	1
022	TP13/0.0-0.2	1	-	1
023	TP13/0.6-0.8	-	1	1
024	TP13/1.1-1.3	-	1	1

CONTINUED OVERLEAF

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SAMPLE RECEIPT ADVICE

SE166371

CLIENT DETAILS

Client SLR CONSULTING AUSTRALIA PTY LTD

Project 610.17191.00001 Pymble

SUMMARY OF ANALYSIS

No.	Sample ID	Fibre Identification in soil	Mercury in Soil	Moisture Content	VOCs in Water
025	TP14/0.0-0.2	1	-	1	-
026	TP14/0.3-0.5	-	1	1	-
027	TP15/0.0-0.2	1	1	1	-
028	TP15/0.6-.8	-	-	1	-
029	TP15/1.3-1.5	1	1	1	-
030	TP15/2.0-2.2	-	-	1	-
031	TP16/0.1-0.3	1	-	1	-
032	TP16/0.8-1.0	1	1	1	-
033	TP16/1.4-1.6	-	1	1	-
034	TP16/1.8-2.0	-	-	1	-
035	DUP01	-	-	1	-
036	DUP01A	-	-	1	-
037	DUP02	-	1	1	-
038	DUP02A	-	1	1	-
039	DUP03	-	1	1	-
040	DUP03A	-	1	1	-
041	TRIP SPIKE	-	-	-	12

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Testing as per this table shall commence immediately unless the client intervenes with a correction .

CHAIN OF CUSTODY & ANALYSIS REQUEST

SGS Environmental Services
Unit 16, 33 Maddox Street
Alexandria NSW 2015
Telephone No: (02) 85940400
Facsimile No: (02) 85940499
Email: au.samplereceipt.sydney@sgs.com

Company Name:	SLR Consulting	Project Name/No:	610.17191.00001 Pymble
Address:	2 Lincoln Street	Purchase Order No:	SGS PO 22711 Eurofins PO 22712
	Lane Cove NSW 2066	Results Required By:	Standard 5 day Turnaround
		Telephone:	0400 882 269
Contact Name:	Craig Cowper	Facsimile:	02 9427 8200
		Email Results:	ccowper@slrconsulting.com

Client Sample ID	Date Sampled	Lab Sample ID	WATER	SOIL	PRESERVATIVE	NO OF CONTAINERS	TRH / BTEX	PAH	OCP	PCB	Metals	Asbestos (absence / presence)	Asbestos ID Building Materials	VOC (8260)	BTEX							Notes
TP01/0.0-0.2	06/06/17	1		X	Ice	2		X			X											
TP02/0.2-0.4	06/06/17	2		X	Ice	2		X	X			X										
TP02/0.6-0.8	06/06/17	3		X	Ice	2	X			X	X											
TP02/0.8-1.0	06/06/17	4		X	Ice	2					X											
TP03/0.0-0.1	06/06/17	5		X	Ice	2		X			X											
TP03/0.1-0.3	06/06/17			X	Ice	2																Hold
TP04/0.1-0.3	06/06/17	6		X	Ice	2	X	X	X		X	X										
TP04/0.6-0.8	06/06/17			X	Ice	2																Hold
TP05/0.3-0.5	06/06/17	7		X	Ice	2		X		X	X	X										
TP05/1.1-1.3	06/06/17	8		X	Ice	2	X					X										

SGS EHS Alexandria Laboratory

SE166371 COC
Received: 07 – Jun – 2017

Relinquished By: Craig Cowper	Date/Time: 7 June 2017	Received By:	Date/Time 7/6/17 @3:00
Relinquished By:	Date/Time:	Received By:	Date/Time
Samples Intact: Yes/ No	Temperature: Ambient / Chilled	Sample Cooler Sealed: Yes/ No	Laboratory Quotation No: SLR Pricing 2015
	Comments: Methods and detection limits to suit NEPM 2013 and ANZECC2000		Lab Quotation No: Eurofins Version 13.CS2

CHAIN OF CUSTODY & ANALYSIS REQUEST

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Unit 16, 33 Maddox Street
Alexandria NSW 2015
Telephone No: (02) 85940400
Facsimile No: (02) 85940499
Email: au.samplereceipt.sydney@sgs.com

Company Name:	SLR Consulting	Project Name/No:	610.17191.00001 Pymble
Address:	2 Lincoln Street	Purchase Order No:	SGS PO 22711 Eurofins PO 22712
	Lane Cove NSW 2066	Results Required By:	Standard 5 day Turnaround
		Telephone:	0400 882 269
Contact Name:	Craig Cowper	Facsimile:	02 9427 8200
		Email Results:	ccowper@slrconsulting.com

Client Sample ID	Date Sampled	Lab Sample ID	WATER	SOIL	PRESERVATIVE	NO OF CONTAINERS	TRH / BTEX	PAH	OCP	PCB	Metals	Asbestos (absence / presence)	Asbestos ID Building Materials	VOC (8260)	BTEX							Notes
TP06/0.0-0.2	06/06/17	9		X	Ice	2		X			X											
TP06/0.2-0.4	06/06/17	10		X	Ice	2					X											
TP07/0.0-0.1	06/06/17	11		X	Ice	2		X			X											
TP07/0.1-0.3	06/06/17			X	Ice	2																**Hold**
TP08/0.15-0.35	06/06/17	12		X	Ice	2	X	X	X		X	X										
TP08/0.6-0.8	06/06/17			X	Ice	2																**Hold**
TP09/0.2-0.4	06/06/17	13		X	Ice	2	X	X		X	X	X										
TP09/0.7-0.9	06/06/17	14		X	Ice	2					X											
TP10/0.1-0.3	06/06/17	15		X	Ice	2			X		X											
TP10/0.7-0.9	06/06/17	16		X	Ice	2		X				X										

Relinquished By: Craig Cowper	Date/Time: 7 June 2017	Received By:	Date/Time 7/6/17 @5pm.
Relinquished By:	Date/Time:	Received By:	Date/Time
Samples Intact: Yes/ No	Temperature: Ambient / Chilled	Sample Cooler Sealed: Yes/ No	Laboratory Quotation No: SLR Pricing 2015
	Comments: Methods and detection limits to suit NEPM 2013 and ANZECC2000		Lab Quotation No: Eurofins Version 13.CS2

CHAIN OF CUSTODY & ANALYSIS REQUEST

SGS Environmental Services
Unit 16, 33 Maddox Street
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Telephone No: (02) 85940400
Facsimile No: (02) 85940499
Email: au.samplereceipt.sydney@sgs.com

Company Name:	SLR Consulting	Project Name/No:	610.17191.00001 Pymble
Address:	2 Lincoln Street	Purchase Order No:	SGS PO 22711 Eurofins PO 22712
	Lane Cove NSW 2066	Results Required By:	Standard 5 day Turnaround
		Telephone:	0400 882 269
Contact Name:	Craig Cowper	Facsimile:	02 9427 8200
		Email Results:	ccowper@slrconsulting.com

Client Sample ID	Date Sampled	Lab Sample ID	WATER	SOIL	PRESERVATIVE	NO OF CONTAINERS	TRH / BTEX	PAH	OCP	PCB	Metals	Asbestos (absence / presence)	Asbestos ID Building Materials	VOC (8260)	BTEX							Notes
TP10/1.3-1.5	06/06/17	17		X	Ice	2	X				X											
TP11/0.3-0.5	06/06/17	18		X	Ice	2	X				X	X										
TP11/1.0-1.2	06/06/17	19		X	Ice	2		X														
TP12/0.0-0.2	06/06/17	20		X	Ice	2	X	X			X											
TP12/0.3-0.5	06/06/17	21		X	Ice	2					X											
TP13/0.0-0.2	06/06/17	22		X	Ice	2		X				X										
TP13/0.6-0.8	06/06/17	23		X	Ice	2				X	X											
TP13/1.1-1.3	06/06/17	24		X	Ice	2	X				X											
TP14/0.0-0.2	06/06/17	25		X	Ice	2		X				X										
TP14/0.3-0.5	06/06/17	26		X	Ice	2	X		X		X											

Relinquished By: Craig Cowper	Date/Time: 7 June 2017	Received By:	Date/Time 7/6/17 @ 3pm
Relinquished By:	Date/Time:	Received By:	Date/Time
Samples Intact: (Yes)/ No	Temperature: Ambient / (Chilled)	Sample Cooler Sealed: Yes/ No	Laboratory Quotation No: SLR Pricing 2015
	Comments: Methods and detection limits to suit NEPM 2013 and ANZECC2000		Lab Quotation No: Eurofins Version 13.CS2

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TP15/0.0-0.2	06/06/17	27		X	Ice	2				X	X	X										
TP15/0.6-0.8	06/06/17	28		X	Ice	2		X														
TP15/1.3-1.5	06/06/17	29		X	Ice	2			X		X	X										
TP15/2.0-2.2	06/06/17	30		X	Ice	2	X															
TP16/0.1-0.3	06/06/17	31		X	Ice	2		X				X										
TP16/0.8-1.0	06/06/17	32		X	Ice	2		X			X	X										
TP16/1.4-1.6	06/06/17	33		X	Ice	2				X	X											
TP16/1.8-2.0	06/06/17	34		X	Ice	2	X															
DUP01	06/06/17	35		X	Ice	1		X														
DUP01A	06/06/17	36		X	Ice	1		X														

Relinquished By: Craig Cowper	Date/Time: 7 June 2017	Received By:	Date/Time 7/6/17 @ 3pm
Relinquished By:	Date/Time:	Received By:	Date/Time
Samples Intact: Yes/ No	Temperature: Ambient / Chilled	Sample Cooler Sealed: Yes/ No	Laboratory Quotation No: SLR Pricing 2015
	Comments: Methods and detection limits to suit NEPM 2013 and ANZECC2000		Lab Quotation No: Eurofins Version 13.CS2

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Alexandria NSW 2015
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Company Name:	SLR Consulting	Project Name/No:	610.17191.00001 Pymble
Address:	2 Lincoln Street	Purchase Order No:	SGS PO 22711 Eurofins PO 22712
	Lane Cove NSW 2066	Results Required By:	Standard 5 day Turnaround
		Telephone:	0400 882 269
Contact Name:	Craig Cowper	Facsimile:	02 9427 8200
		Email Results:	ccowper@slrconsulting.com

Client Sample ID	Date Sampled	Lab Sample ID	WATER	SOIL	PRESERVATIVE	NO OF CONTAINERS	TRH / BTEX	PAH	OCP	PCB	Metals	Asbestos (absence / presence)	Asbestos ID Building Materials	VOC (8260)	BTEX							Notes
DUP02	06/06/17	37		X	Ice	1					X											
DUP02A	06/06/17	38		X	Ice	1					X											
DUP03	06/06/17	39		X	Ice	1					X											
DUP03A	06/06/17	40		X	Ice	1					X											
Trip Spike	06/06/17	41	X		Ice	1									X							
Trip Blank	06/06/17		X		Ice	1																**Hold**

Relinquished By: Craig Cowper	Date/Time: 7 June 2017	Received By:	Date/Time 7/6/17 @ 3pm
Relinquished By:	Date/Time:	Received By:	Date/Time
Samples Intact: Yes/ No	Temperature: Ambient / Chilled	Sample Cooler Sealed: Yes/ No	Laboratory Quotation No: SLR Pricing 2015
	Comments: Methods and detection limits to suit NEPM 2013 and ANZECC2000		Lab Quotation No: Eurofins Version 13.CS2

CALIBRATION

SLR

PID CALIBRATION LOG

PID MODEL: MiniRae Lite PGM73500 (10.6eV lamp)	PID SERIAL NUMBER: 595-000501

Date:	24/04/17	SLR Project Number:	610.17035.00001
Isobutylene Gas Lot No:	1583028		
Isobutylene Standard (ppm):	100		
Fresh Air Cal (ppm):	0		
Isobutylene Cal (ppm):	100		
SLR Consultant Signature:			

Date:	03/05/17	SLR Project Number:	610.15539.00002
Isobutylene Gas Lot No:	1583028		
Isobutylene Standard (ppm):	100		
Fresh Air Cal (ppm):	0		
Isobutylene Cal (ppm):	100		
SLR Consultant Signature:			

Date:	18/05/17	SLR Project Number:	610.16928
Isobutylene Gas Lot No:	1583028		
Isobutylene Standard (ppm):	100		
Fresh Air Cal (ppm):	0		
Isobutylene Cal (ppm):	100		
SLR Consultant Signature:			

Date:	06/06/2017	SLR Project Number:	610.17191.00001
Isobutylene Gas Lot No:	1583028		
Isobutylene Standard (ppm):	100		
Fresh Air Cal (ppm):	0		
Isobutylene Cal (ppm):	100		
SLR Consultant Signature:			

SLR Consulting Australia Pty Ltd 2 Lincoln Street Lane Cove NSW 2066 Australia
(PO Box 176 Lane Cove NSW 1595 Australia)
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